User Manual

Devolutions Server

A self-hosted repository for **Remote Desktop Manager**

v.2.5

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Getting Started

Part I

1 Getting Started

1.1 What is Devolutions Server?

Description

Devolutions Server is a self-hosted repository for storing and sharing remote connections, credentials and sensitive information. Used in combination with a compatible Client application, it extends the Client capabilities to create an Enterprise wide high-end data store.

Being a repository, you absolutely must use one of our clients in order to use it. These are:

1) Remote Desktop Manager
   a) Remote Desktop Manager Enterprise - Windows Edition
   b) Remote Desktop Manager Enterprise - Mac Edition

2) Password Vault Manager
   a) Password Vault Manager Enterprise - Windows Edition
   b) Password Vault Manager Enterprise - Mac Edition

Highlights

- High-end security server for your company;
- Share your sessions, credentials, sensitive data with multiple users while adhering to permissions that you assign;
- Implemented as a Web application so it can be deployed to the Web or only to your Intranet if you prefer;
- Support Windows authentication and Active Directory integration;
- Client and server side caching;
- 100% compatible with the SQL Server data source.

Usage scenarios

There are two specific reasons to use Devolutions Server within an organization:

1. A middle layer is required in order to isolate the client applications from the database. This may be required in order to be compliant with a security norm at the corporate or legal level. (HIPAA, PCI, etc.)

2. The assignment of rights and permissions must come from membership in one or many AD Groups. This allows management exclusively by assigning users in AD groups, obviously after the linkage between the instance and the AD structure is put in place.

Installation

Please consult Installing Devolutions Server to get your system up and running.

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1.2 Features

Overview

Features	Descriptions
Maximum session count	Unlimited Note 1
Database connection	Behind server
Caching • Server caching • Client-side caching	 X X
Multi-user support	X
Windows authentication (Active Directory)	X
Group integration (Active Directory)	X
Security management • Built-in Database user support • Security groups • Role management • Per session security access (view, add, edit, delete) • Custom database encryption with passphrase • Per user settings / credentials • Per machine settings / credentials	 X X X X X X X
Connection logs	X
Document attachments: Word, Excel, PDF, Visio ...	X

Notes

Note 1

Although we do not limit the number of sessions that you will store in your instance, there comes a point where the performance is severely impacted by the sheer volume of data that must be exchanged between the client and server. This is made worse by using Custom images and sizeable notes being stored within the sessions. The solution is to balance sessions between multiple data sources, thereby making each data source easier to handle.

1.3 System Requirements

Minimum Requirements

- Microsoft .Net Framework 4.0
- For operating systems, please refer to the requirements for the .Net Framework as it is the driving force behind the requirements of our applications.
- 500+ MB hard drive space

64-bit Support

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Devolutions Server is compatible with all 64-bit versions of Windows.

Dependencies

- Microsoft SQL Server 2008/2012/2014 (even the Express editions)
- Internet Information Services (IIS) 7.0 or better
- Remote Desktop Manager Enterprise - Windows Edition installed on the server.

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Management

Part II

2 Management

2.1 Devolutions Server Console

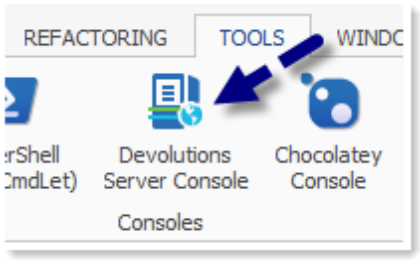
Description

Because Devolutions Server is in fact a web application, the management interface is provided by ***Remote Desktop Manager Enterprise - Windows Edition***. A single license of that product will be provided if your existing licenses do not already include that product. The management interface is called the Devolutions Server Console.

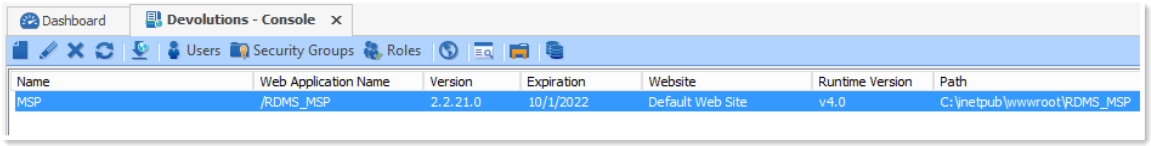
Console

1. Because the Devolutions Server Console in fact manages the IIS metabase, Remote Desktop Manager Enterprise - Windows Edition must be started with elevated privileges when the console needs to be used. Elevated privileges are granted when you use "***Run as Administrator***" to launch the application. You can modify the shortcut to always start it in this fashion if you prefer.

2. Select ***Tools - Devolutions Server Console***



Menu



Devolutions Server Console

Actions

- New
- Modify
- Delete
- Refresh
- Upgrade
- Manage Users
- Manage Groups
- Manage Roles
- View web client
- View Logs
- Explore Content of web site directory
- Register the Devolutions Server as a Data Source.

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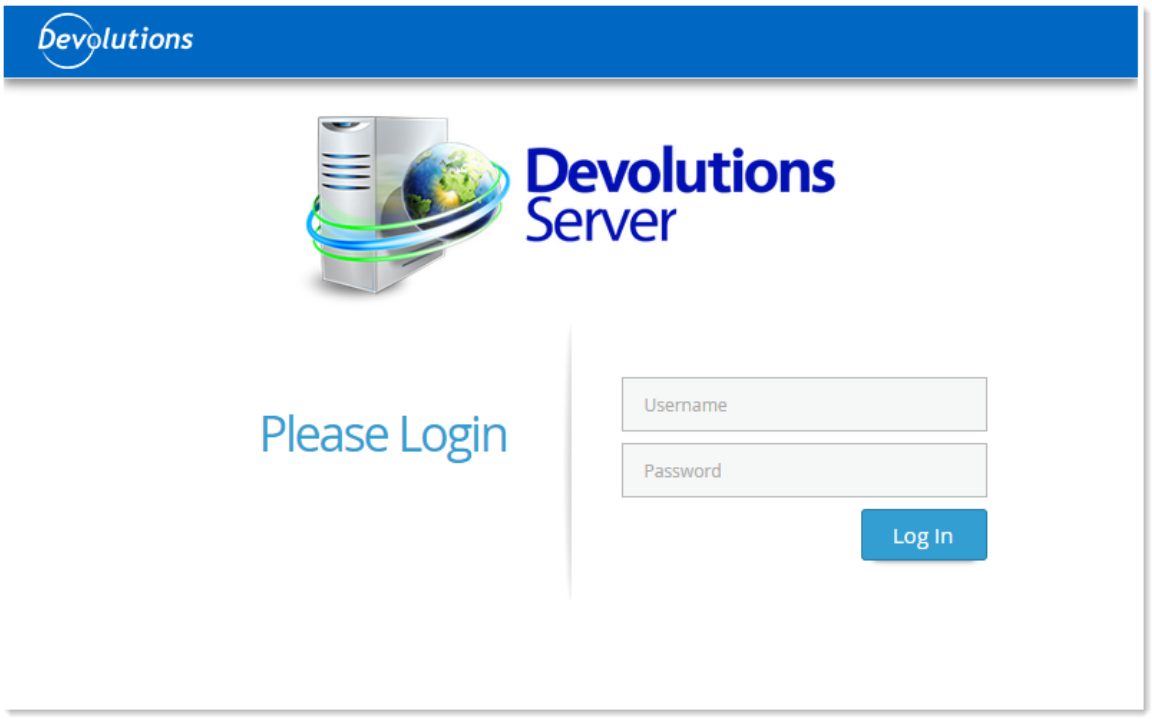
2.2 Web Client

Description

Because of documented vulnerabilities of web browsers, particularly their extensions, we do not perform any password decryption in a web browser. The web interface is feature-limited purposefully and you must use the client to perform any modification to entries.

Home page

Open a browser to the URL that you have chosen for your Devolutions Server instance. If you have followed the default settings for a first installation, it should normally be available at http://localhost/dvls.



Web client

View/Modify Sessions

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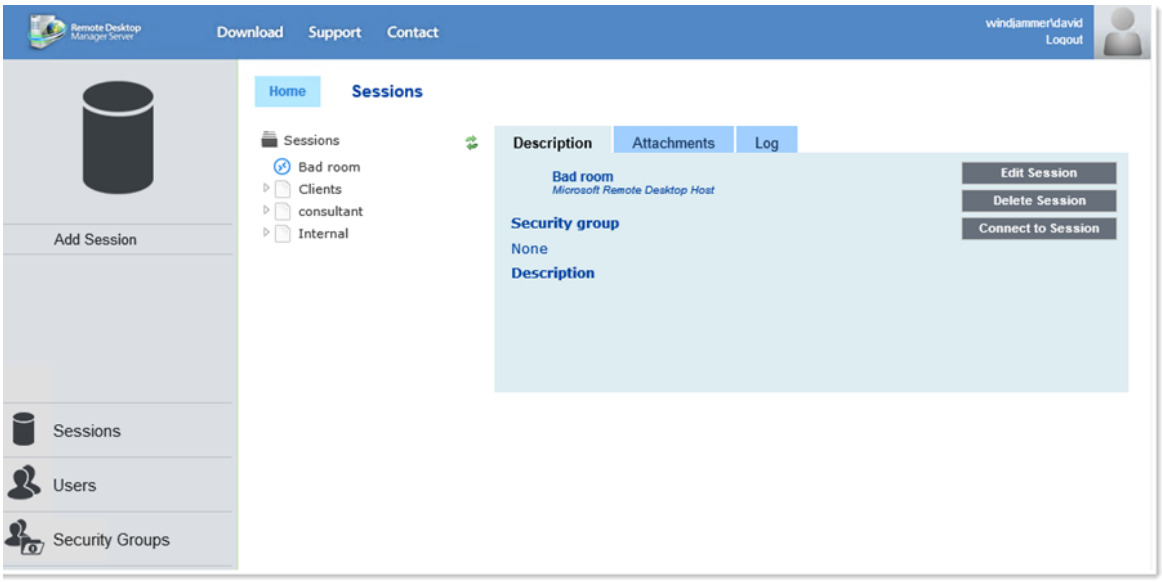
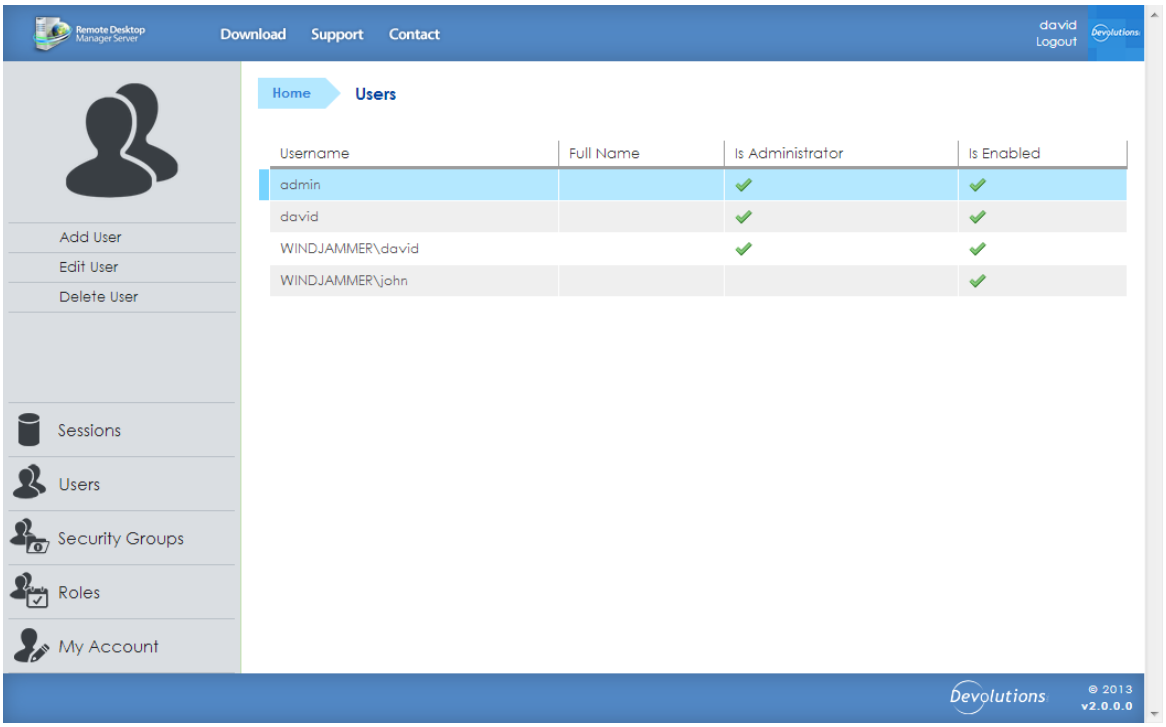


View/Modify sessions

View/Modify Users



View/Modify users

View/Modify Security Groups

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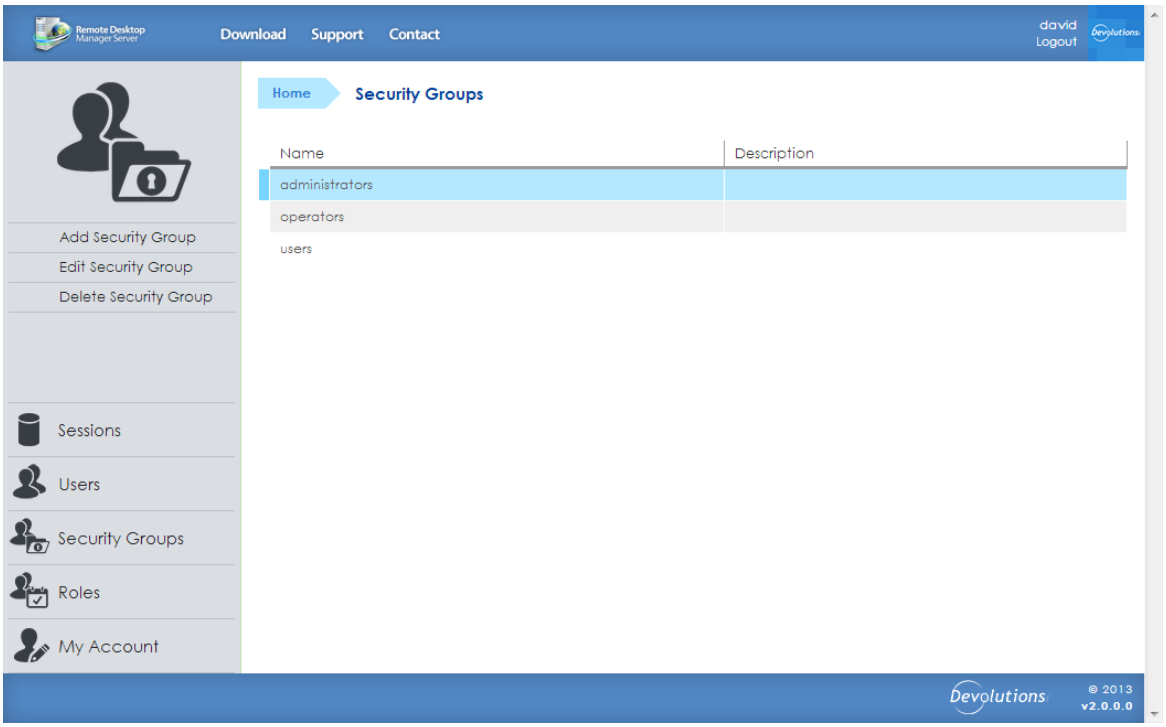
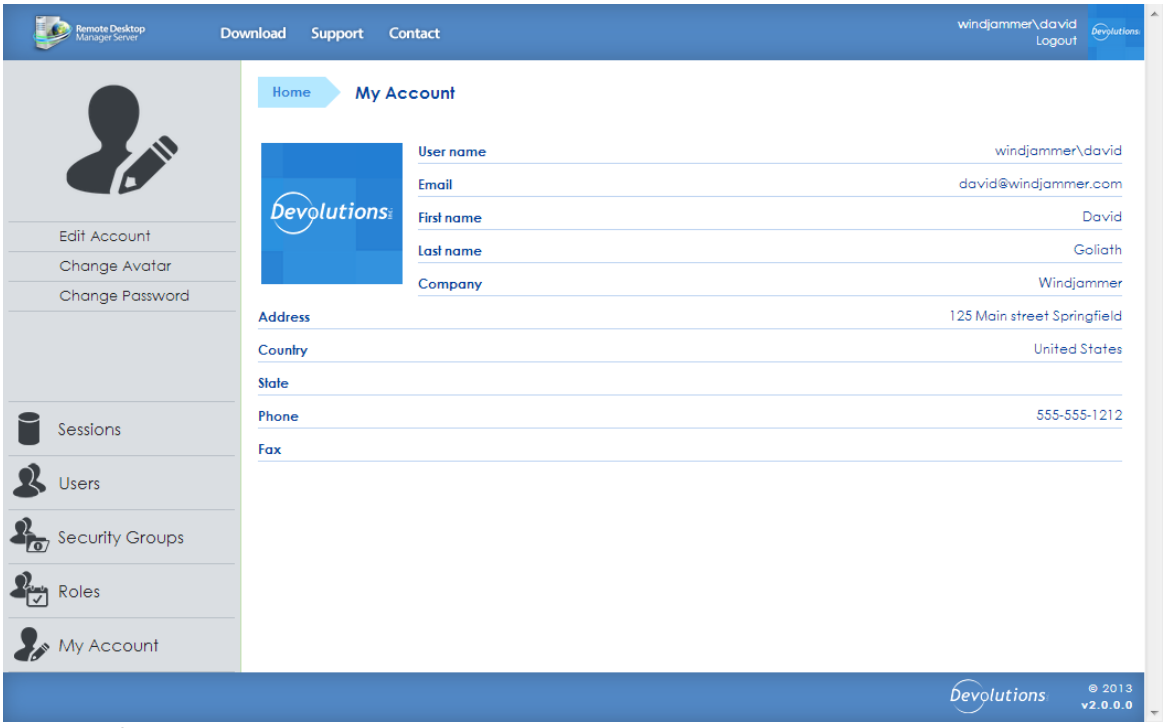


View/Modify security groups

View/Modify Account



View/Modify account

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2.3 Authentication

Description

Devolutions Server supports multiple authentication models.

Authenticate with Devolutions Server user

The ASP.NET membership framework is used to authenticate the user with its hashed password in the database.

Authenticate with domain user

The server hosting the instance must be joined to a domain in order to achieve domain authentication at this time.

The domain is used to authenticate the user. The domain authentication is the most secure, flexible and easiest to manage. No need to sync users between the domain and Devolutions Server. On first use of the Devolutions Server data source, the user will be created and be given access rights according to their role in the organization as defined on the domain. Make sure you grant appropriate permissions to your domain roles in Devolutions Server.

Authenticate with local machine user

The application allows a local user (on the Devolutions Server host) to be authenticated into the instance, even through the web interface.

Authenticate with database user

The application allows SQL Server user accounts to authenticate on the Devolutions Server instance.

2.4 Automatic User Account Creation

Description

When using authentication models other then ***Active Directory***, obviously a user account needs to be created beforehand in order to grant access to the system.

When you are using ***Active Directory*** authentication, two choices are offered to you:

1. You can choose to create the user account manually, just as with the other authentication models; or

2. Enable ***Automatic Account Creation***, and let Devolutions Server create user accounts as soon as they are authenticated by the domain you've linked the instance to.

After the account is created, rights and permissions are assigned either manually to the user account, or through membership in AD groups for which you have created a role mapping.

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User accounts created by the server have no rights other then logging on the system. They will be able to see and edit the objects that have no security defined. You must ensure that all sessions are protected, typically this is achieved by ensuring that all root level folders have a security group assigned to them.

Depending on the authentication mode used, the user name may be prefixed by the domain name, and the exact naming convention is controlled by the domain. For instance, for a ***WINDJAMMER*** domain that is registered as ***windjammer.loc***, we have no way of knowing beforehand what form will be reported by the AD services. It is recommended to always enable both Devolutions Server authentication initially and create an Administrator account for the initial phase of implementation.

2.5 Security

Description

The Security section of the Devolutions Server Console allows you to manage your instance. These management features are exactly the same as the one offered under the ***Administration*** tab of the various Desktop Clients, when they are connected to that instance as a Data source.

Since the latter is the one you will spend most of your time using, whenever a new instance is created, we recommend creating an administrative user, then register the instance as a data source in your Desktop Client of choice. This will bring you in a more familiar territory and will help you get around more quickly.

If you are indeed using full AD integration, whereas the assignment of permissions comes mostly from AD Group membership, then the roles are the mechanism that make this work.

The sections below are to cover the basic management features if you cannot use a desktop client.

- Security Group Management
- User Management
- Role Management

2.5.1 Security Group Management

Description

Security Groups are used to assign a security scheme to folders or sessions. There is no direct relationship between Active Directory and Security Groups. By default, every session is created without a security group, and is visible to all connected users. You can grant permissions against a group to a user account or to a role.

Steps:

1. Create the security groups
2. Assign the security group to the session
3. Create the required users
4. Link the security group to a user

Notes: All sessions without security groups are considered public.

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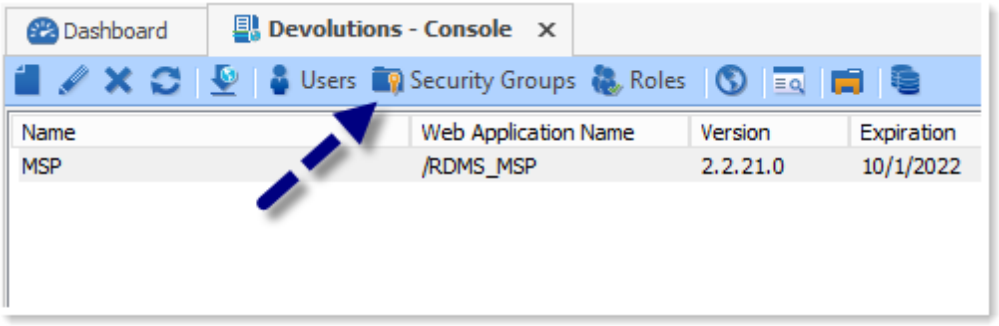
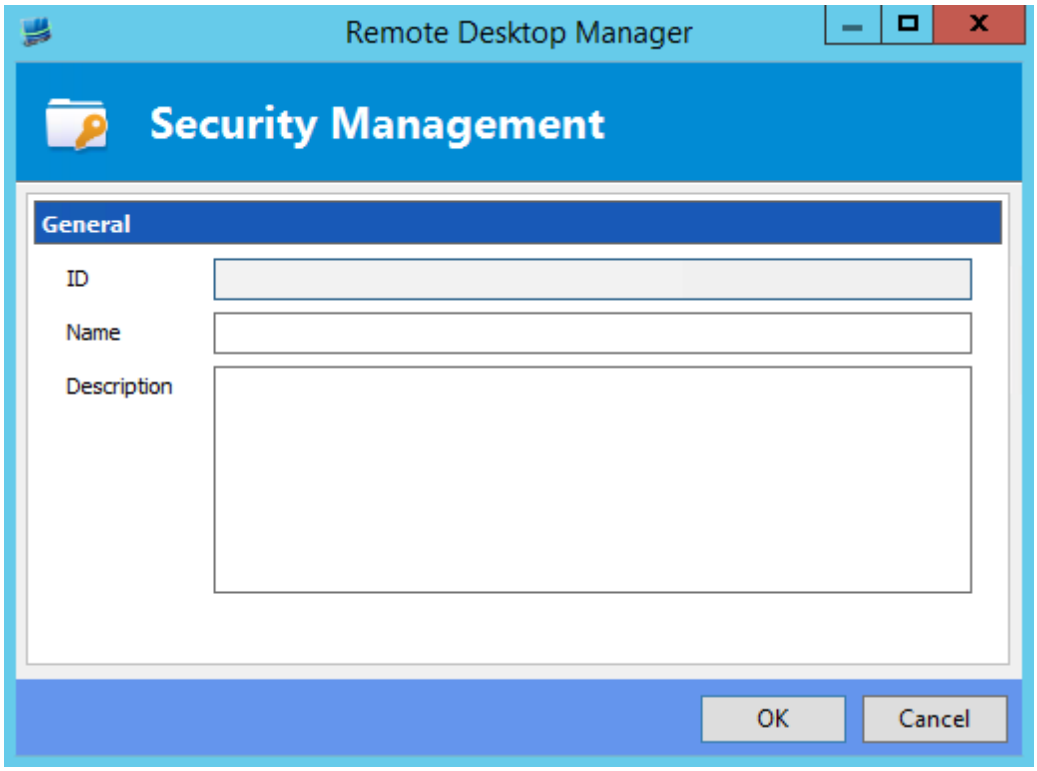
Creating Security Groups

Security groups are created from the menu ***Security Groups***.



Edit the data source security groups

Enter a name and a description for the security group. The name must be unique



Security group dialog

Assigning a Security Group to a Session

Security groups can be assigned to sessions using the session's property window. Each session can only have one security group assigned.

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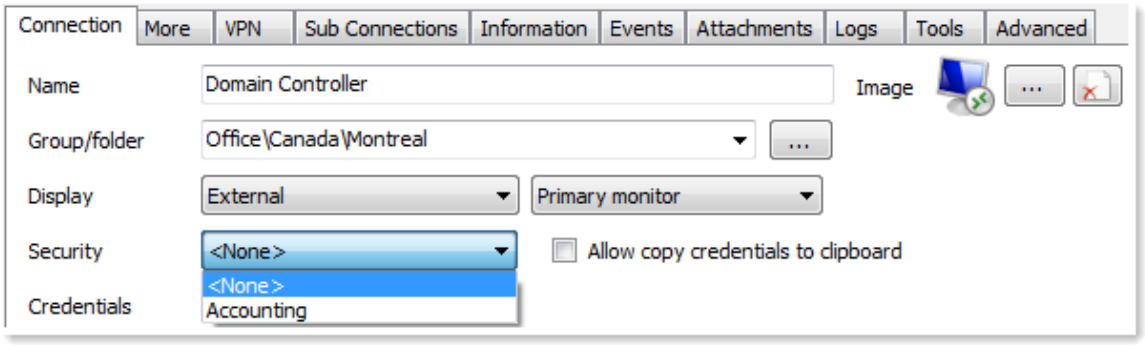
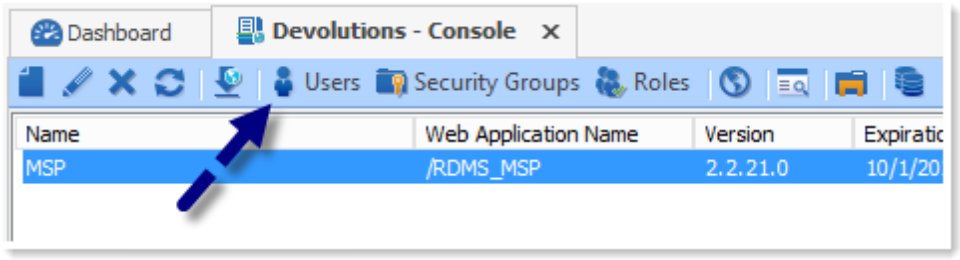


Session configuration - security group

2.5.2 User Management

Description

With the Devolutions Server data source, you can create users and grant them permissions. You must be administrator of the database to create users and assign rights. The user administration is available from the menu ***Users - Add User*** or from the Devolutions Server Console when executed locally on the server.



Edit the data source users

Adding a User

If you wish, you can create a user linked to a domain or a built-in user. Domain user are created automatically the first time they log-on. They don't have any rights except what is public.

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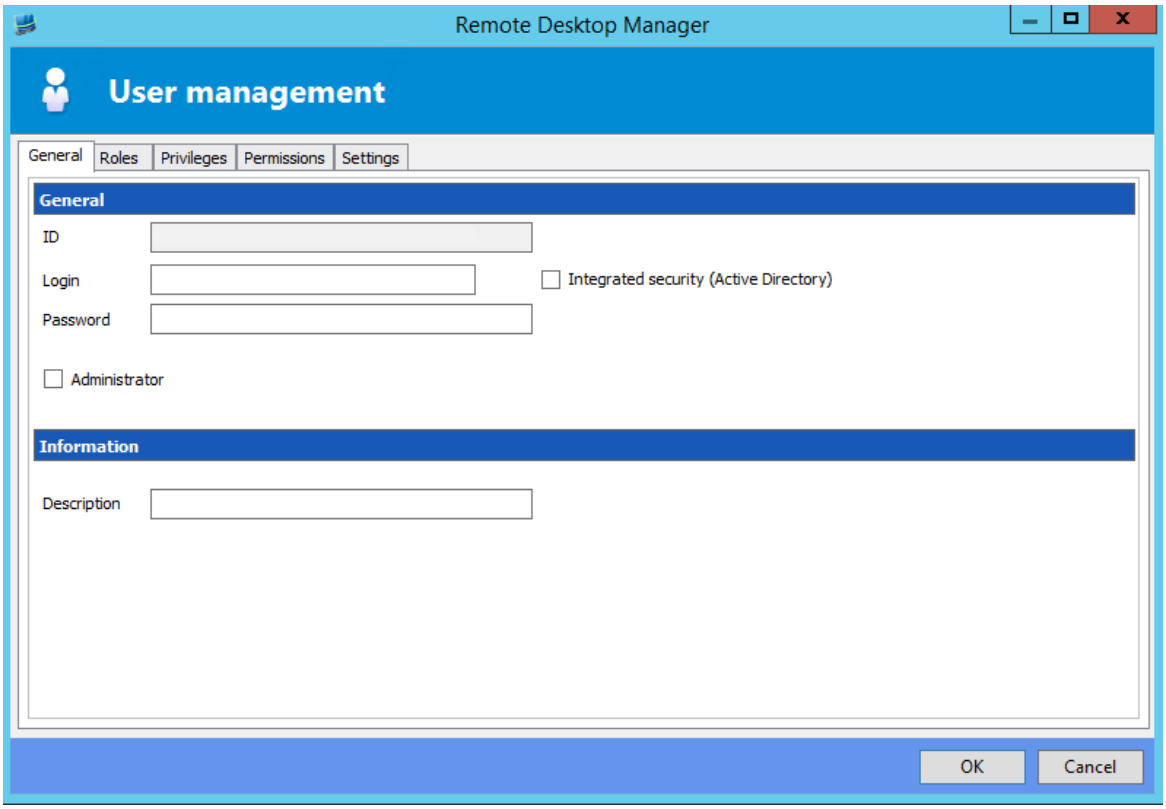

User dialog

Linking a Security Group to a User

You can manage the rights and groups in the ***Permissions*** tab. A user with administrator rights has access to all of the configured sessions from all groups.

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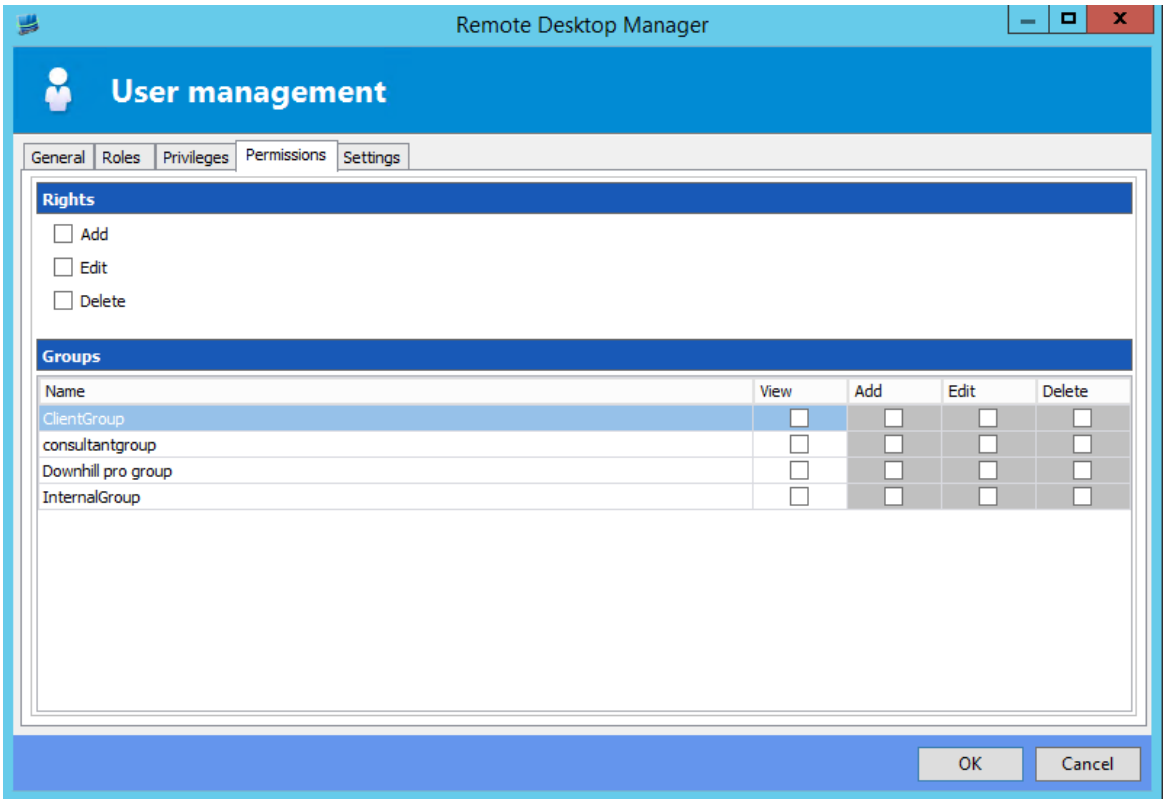


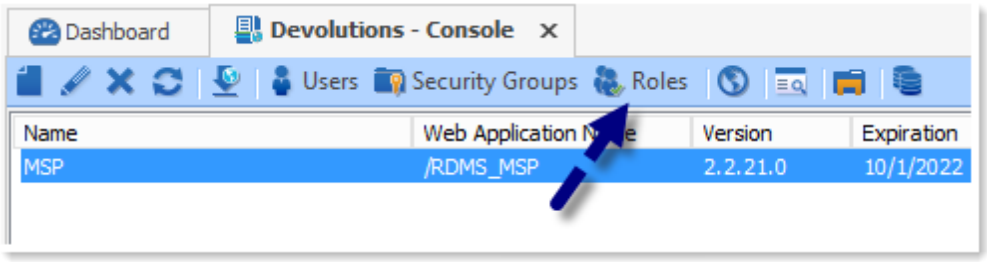
Linking a Role to a User

Roles are assigned when the user is authenticated from the Domain.

2.5.3 Role Management

Description

Role management is only available when the Domain authentication is enabled. This allows the server to link an Active Directory (AD) group to a role in Devolutions Server. All the role settings are applied to the users that are member of the AD group.



Edit the data source roles

Roles can be edited from the Devolutions Server Console locally on the server or from a remote data source by using the menu ***Roles.***

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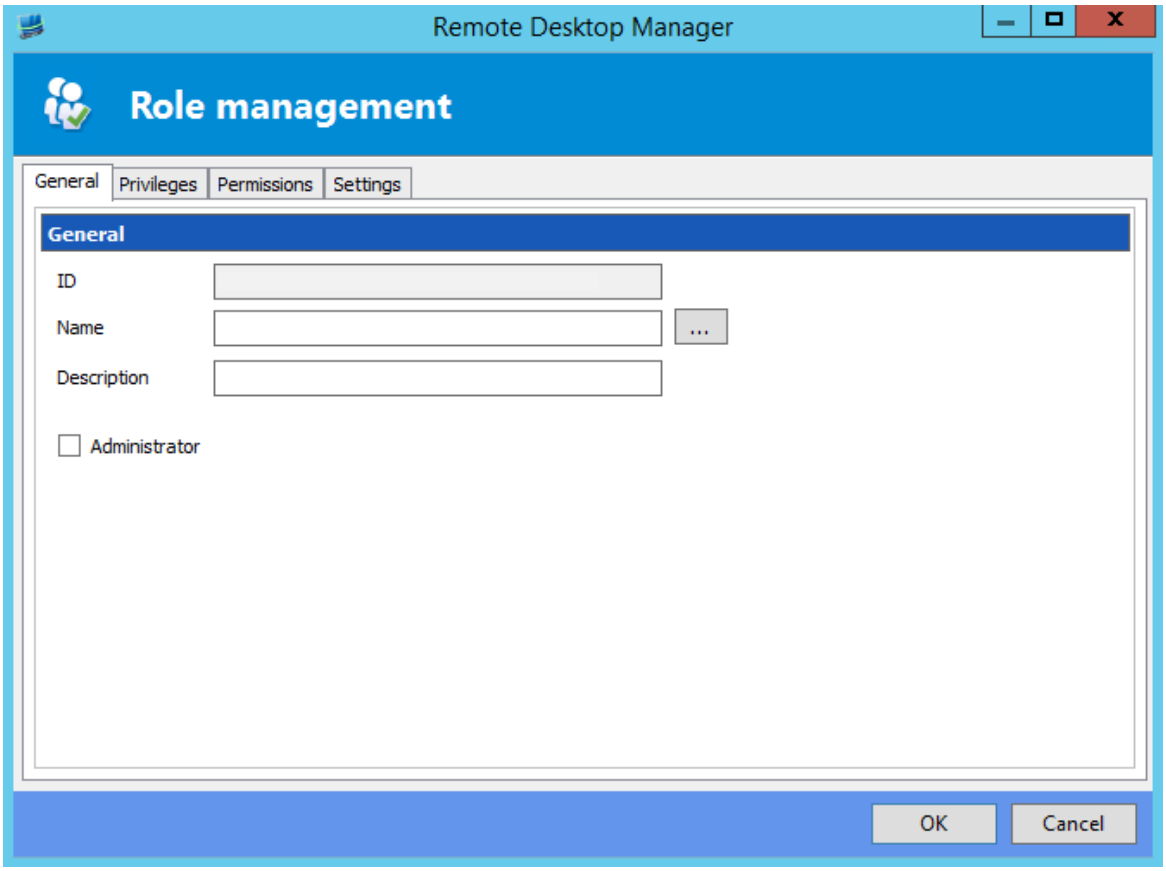

Role editor dialog

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Installation

Part

3 Installation

3.1 Installing Devolutions Server

Topology

Devolutions Server is in fact a Web application. This allows for exposing its services on the Internet or simply on your Intranet.

The recommended topology is to use two servers: a Database server and a Web server.
Obviously, for small installations, a single server can be used, but resources will be shared between the two roles thereby lowering performance.

Remote Desktop Manager Enterprise - Windows Edition must be installed on the web server in order to manage the Devolutions Server web application.

It's highly recommended to enable SSL Encryption to protect communication with the instance of SQL Server. Please follow directions on http://support.microsoft.com/kb/316898

For full active directory integration, whereas the application pool uses a domain identity, both servers need to be joined to the domain.

How to install the server

Web Server pre-requisites

Please refer to the appropriate topic depending on the operating system of the web server.

Web role - Install pre 2012R2
Web role - Install 2012R2

Database server pre-requisites

Please refer to Database Instance

Create Devolutions Server Instance

Please refer to Create Devolutions Server instance

3.1.1 Web role - Install pre 2012R2

Description

These are the first version instructions that are applicable to server running Windows 2008 up to 2012 (R1)

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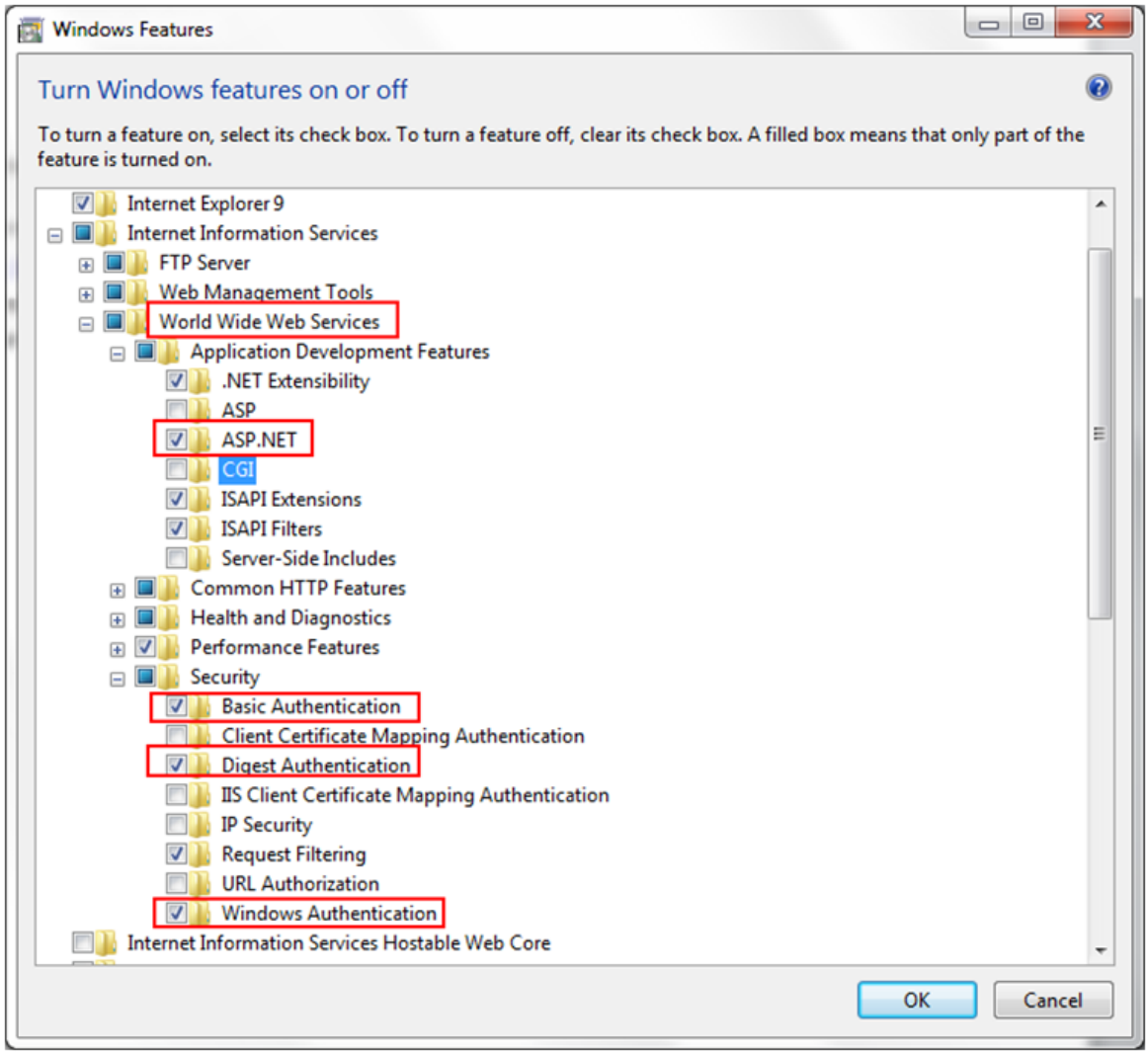
Web Server Pre-requisites

Make sure Internet Information Services is installed with all the ASP.NET requirements.



Windows features

3.1.2 Web role - Install 2012R2

Description

These instructions apply to Windows 2012 R2. Configuration of the Web server in that release is a significant departure from previous versions.

These steps are mostly manual at this time. They were performed on a Windows 2012 R2 image that had been installed from the DVD image and had the Windows Updates applied.

Install the Web Server Role

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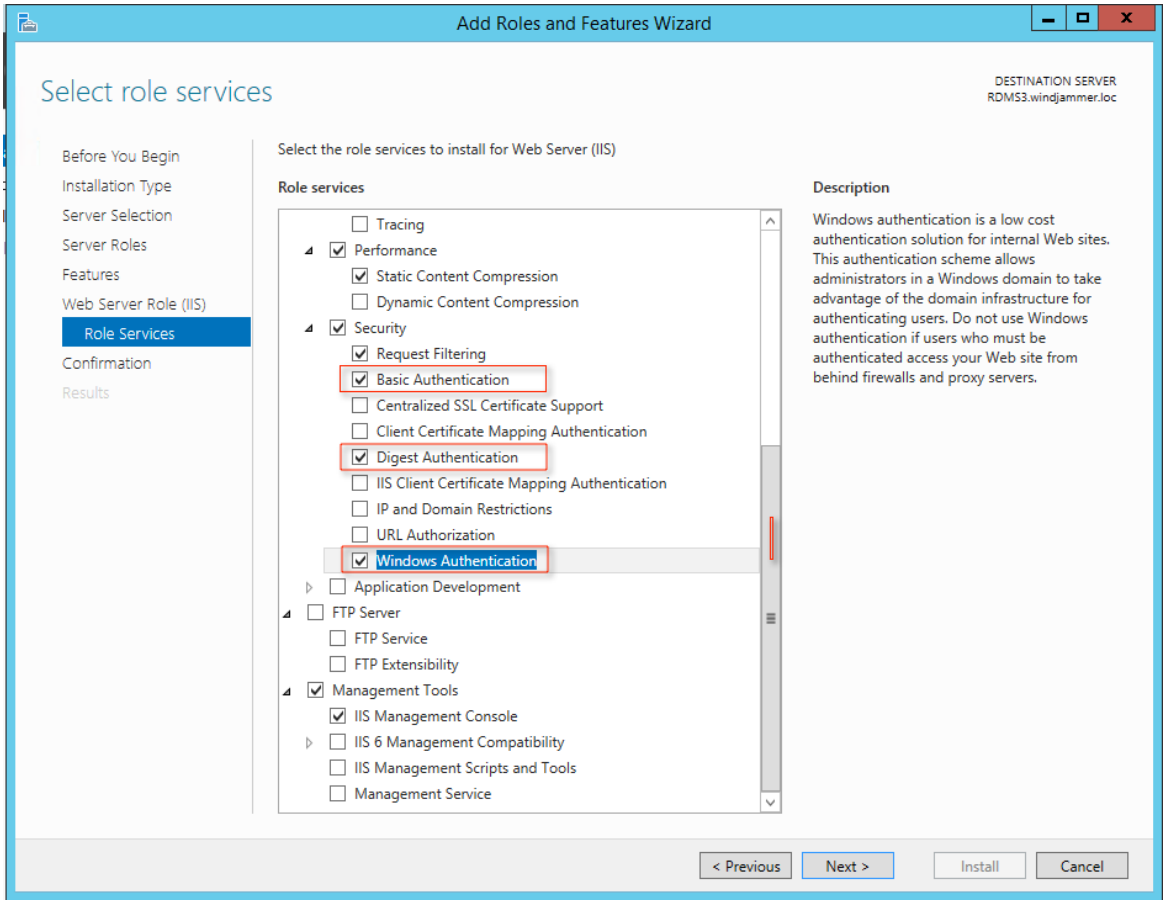
Using the Roles and Features wizard, add the Web Server Role.

Add missing Role services

In the Security branch, enable the following authentication services: Basic, Digest, and Windows.



Web Server services

Add ASP.NET 4.5

Using the Roles and Features wizard, add the ASP.NET 4.5 feature

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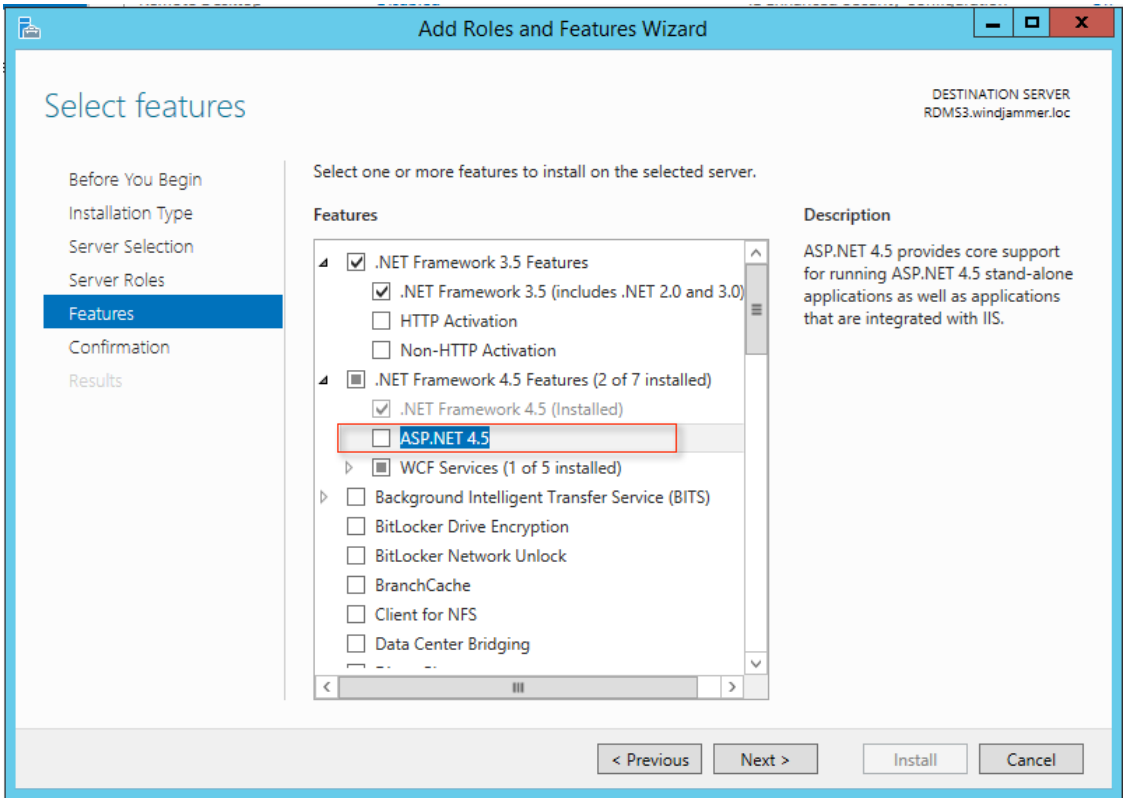

ASP.NET 4.5

Register ASP.NET in IIS

This is easiest with the Web Platform Installer. In IIS Manager, when you select the server node, you will see a Get New Web Platform Components. Use this to install the Web Platform Installer.

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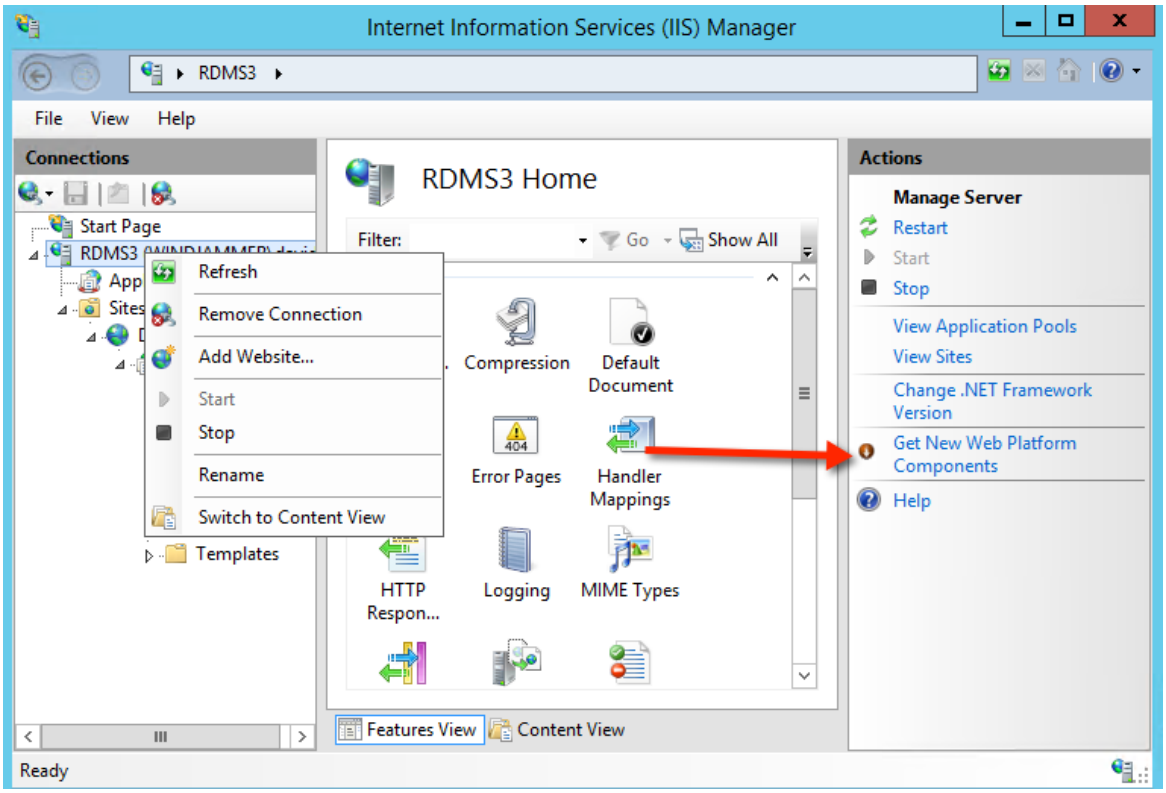

IIS Manager with Command to install WPI

When you launch the WPI, highlight the Products category and browser for IIS: ASP.NET 4.5, Add it, then press Install.

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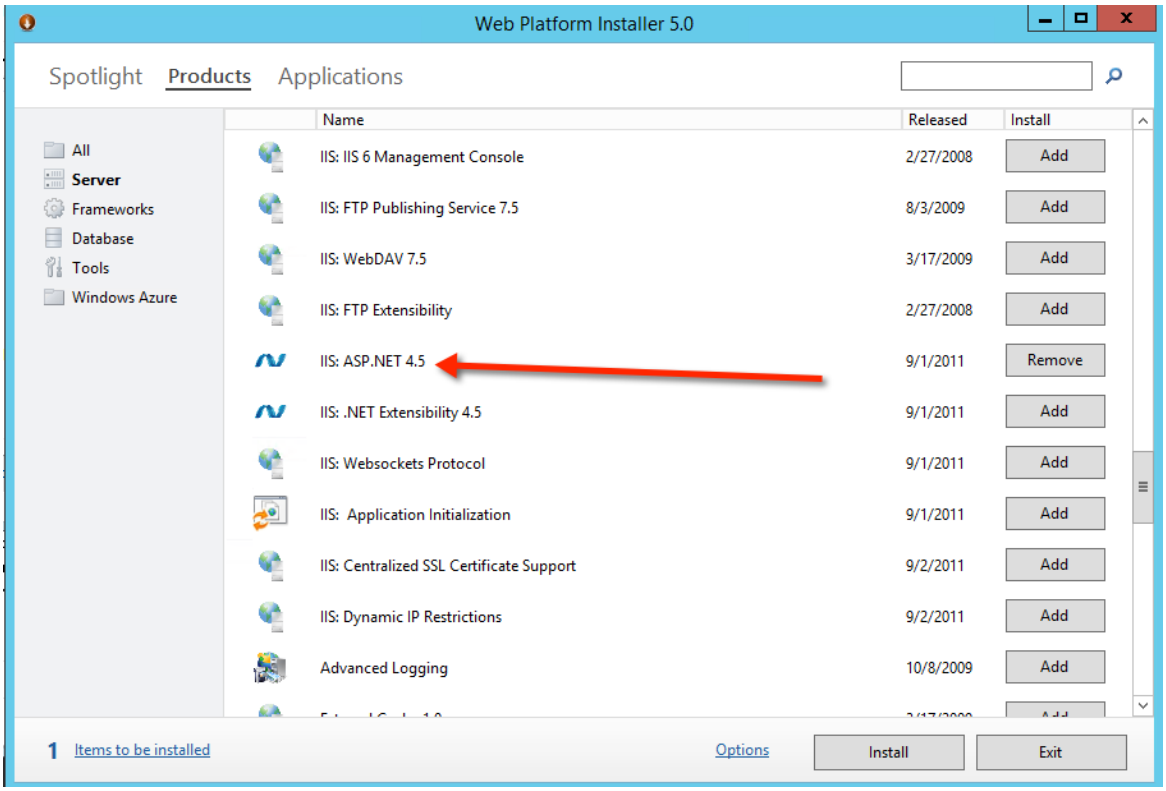

WPI:ASP.NET 4.5

Allow for configuration personalization by web Applications.

New to this release, configuration is locked down at the root of the web site. Since Devolutions Server requires specific directives, we need to allow for web applications to adapt the configuration at their level.

This is easiest when using the APPCMD executable. Open an elevated command prompt (Run As Administrator). Set the working folder to ***%windir%\system32\inetsrv*** and run the following two commands.

```
appcmd.exe unlock config -section:system.webServer/handlers
appcmd.exe unlock config -section:system.webServer/modules
```

3.1.3 Database Instance

Description

Install SQL Server Express or Standard. Download SQL Server 2014 Express from Microsoft's site.

If full integration with Active Directory is required, you can decide to only activate Windows Authentication. Please refer to the MSDN online help for full details.

Under Windows authentication, you will have to set the Application Pool identity to an account from the domain. We recommend creating a dedicated account for that purpose. Please refer to Configure Devolutions Server to use integrated security for instructions that you will have to perform **AFTER** creating the Devolutions Server instance.

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Devolutions Server has no requirements that would dictate what communication protocol is used, as well as many of the options offered to you by SQL Server. As long as the client workstation can connect to the SQL Server instance, Devolutions Server will work. Please refer to the Microsoft Documentation in order to allow connectivity to the instance.

3.1.4 Create Devolutions Server instance

Description

The Devolutions Server product can host multiple instances that will each reside in their own Web Application within IIS. The following steps are carried out using the Remote Desktop Manager Enterprise - Windows Edition.

Procedure

1. Install ***Remote Desktop Manager Enterprise - Windows Edition*** on the web server. It is available from the Download page

2. Execute Remote Desktop Manager Enterprise - Windows Edition with elevated privileges (run as administrator).

3. Open the console by using **Tools > Devolutions Server Console**.

All operations done through the console are done with the credentials used to launch Devolutions Server. If you must use other credentials then you must launch another window session. The RunAs command does not offer the option of starting a process with elevated privileges.

4. Deploy a new server instance.

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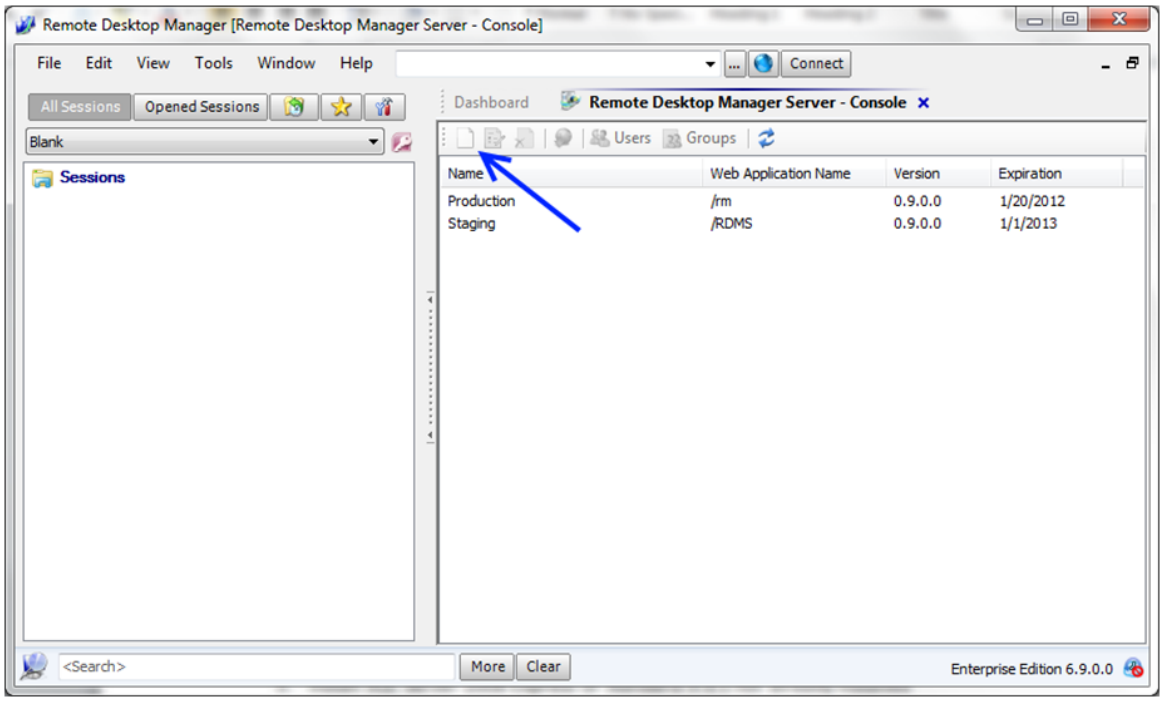

Devolutions Server Console

5. Configure the instance by personalizing the name and description. You must also choose the authentication options. For the initial setup we recommend to always enable ***Authenticate with*** Devolutions Server ***user***. You will guarantee connectivity for the first steps and you can later disable it.

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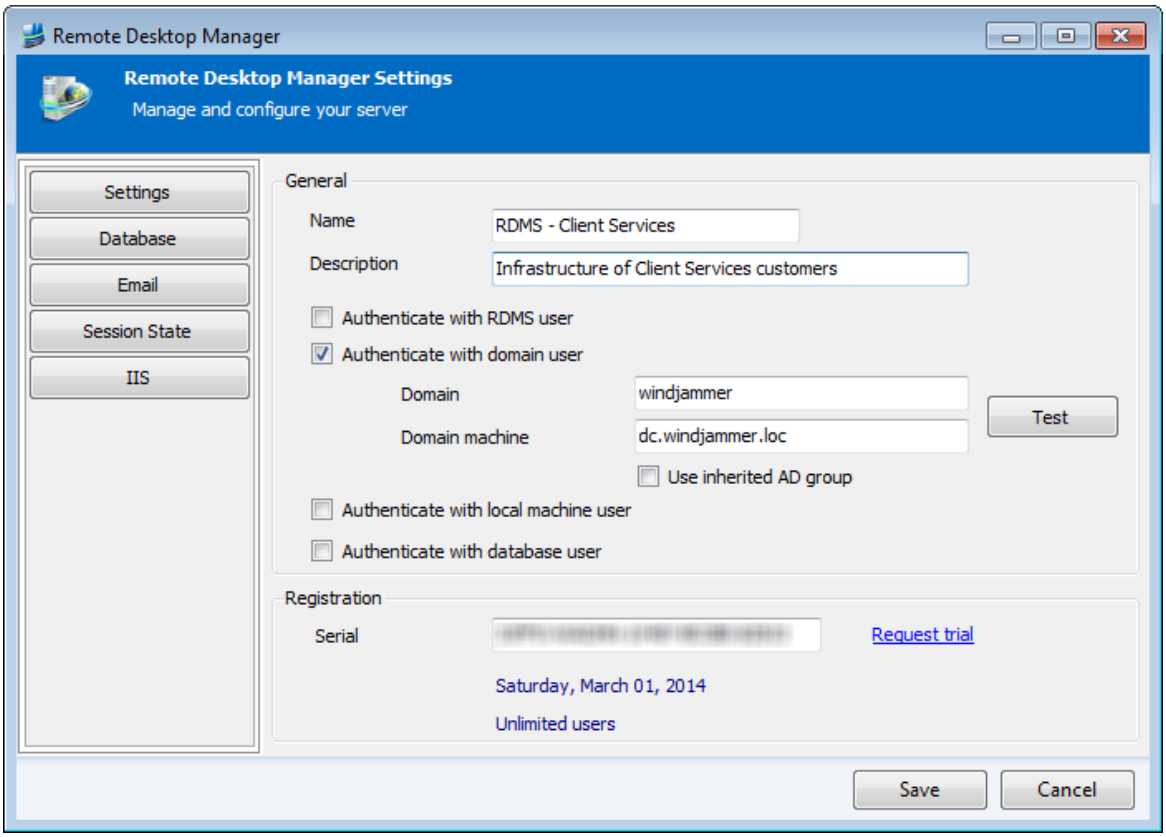

Devolutions Server settings

Authenticate mode	Description
Devolutions Server user	The Devolutions Server is used to authenticate the user. You ***must*** create the initial user through the console
Domain user	The domain is used to authenticate the user.
Local machine user	The application allows a local user to be authenticated unto the server.
Database user	The database is used to authenticate the user

6. Enter a serial registration key, alternatively you can Request a trial

7. Configure the email setting. They are not validated further than verifying the presence of a string in the host field.

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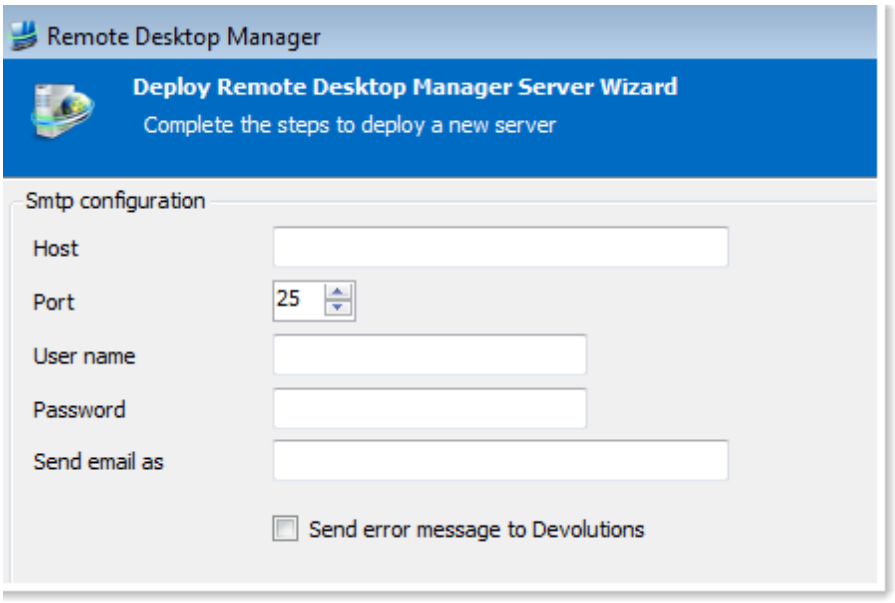
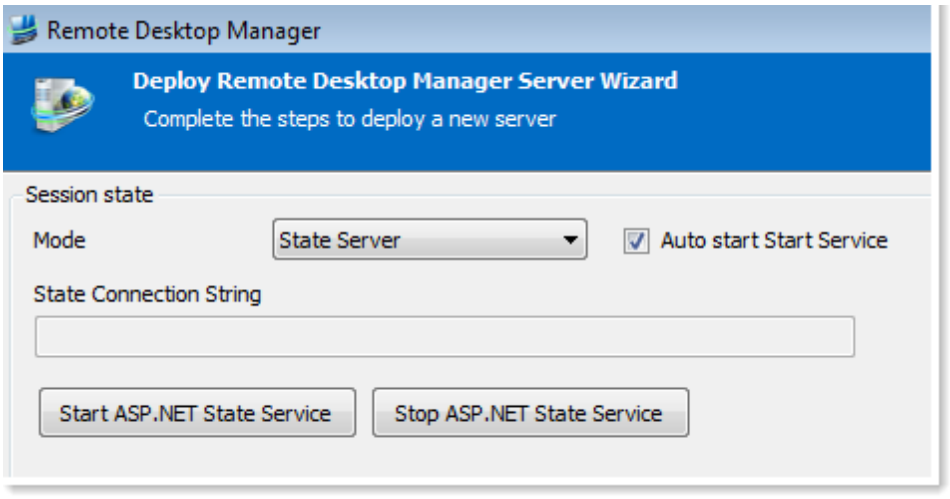


SMTP Configuration page

8. Ensure the ASP.NET State service is started or set to automatically start. The State Service is required to maintain web session information between each call. If you press on Start ASP.NET State Service and the response is "Service is not installed", this means that ASP.NET has not been installed.



Auto Start Service

9. Select a zip file or use the automatic download. Choose a destination folder and an IIS virtual directory name. The process to run Web sites has been granted the proper permissions under c:\inetput \wwwroot, we recommend you create the Devolutions Server instance under that folder.

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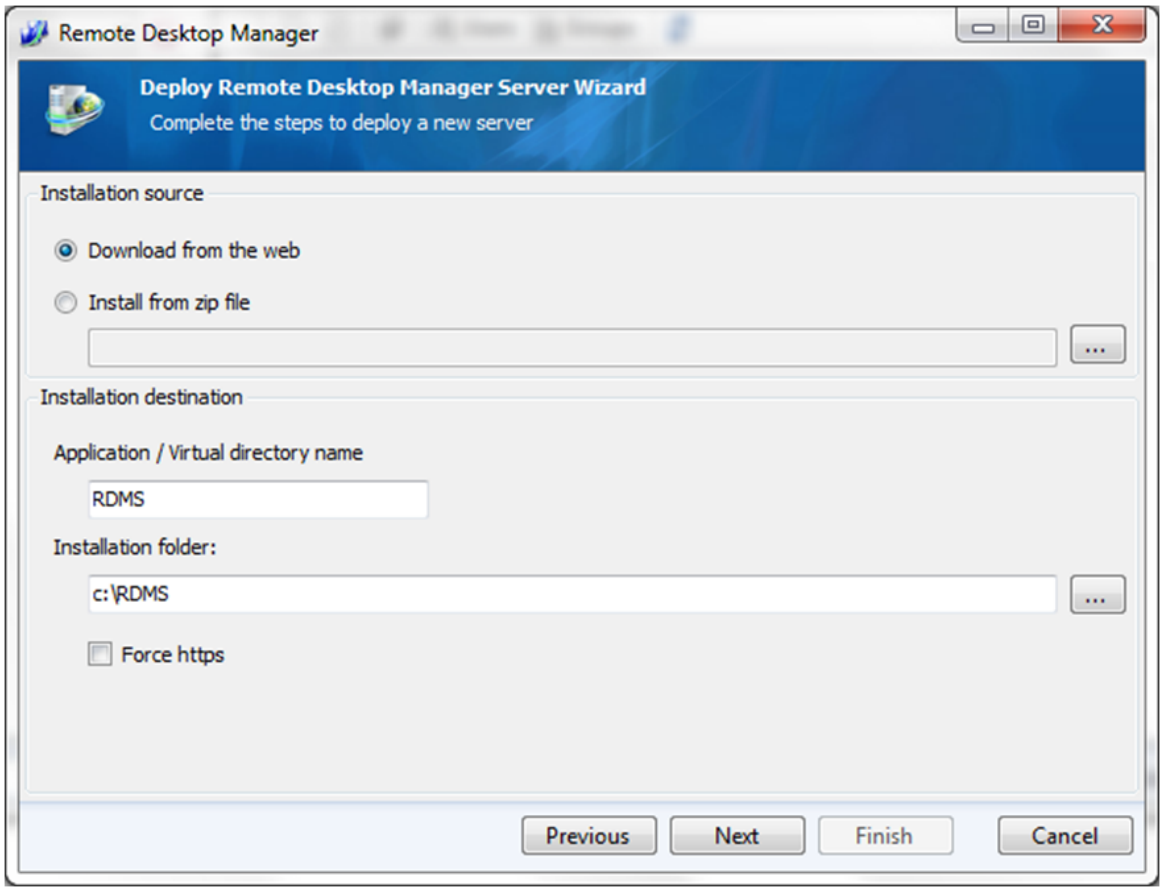

Source/Destination

10. Enter the database settings and create the database. You can reuse an existing database from a desktop applications and just upgrade it, it's 100% compatible. If you wish to use integrated security to connect to the database please consult Configure Devolutions Server to use integrated security.

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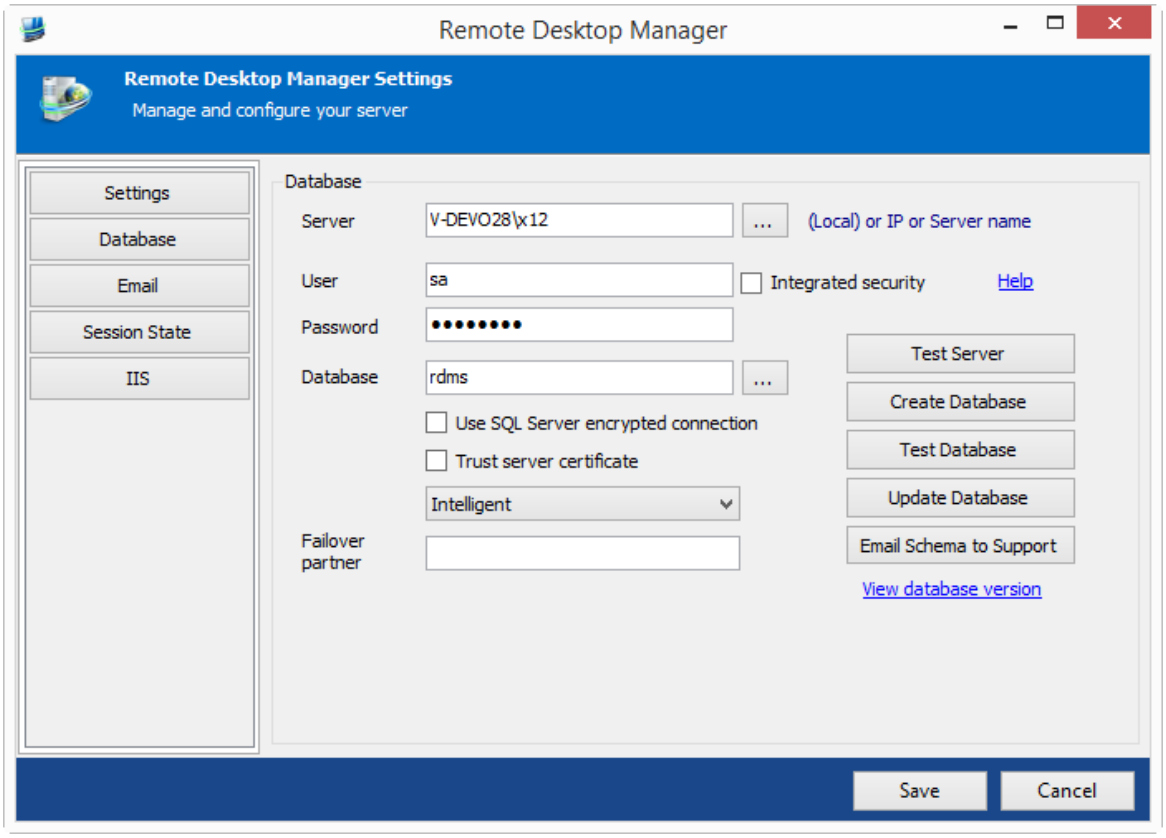

Create a database

11. Execute the final step and deploy the server.
12. You can test the server installation by opening the URL. e.g.: http://localhost/Devolutions Server.
13. Configure users and security groups and add at least one administrator user account.

You must create an administrator account if you've enabled the Devolutions Server Authentication model. In other cases, the account name must match with the chosen authentication model. If you are unsure of the result, also enable Devolutions Server authentication, create an administrator account and grant the Administration privilege to the account.

After the successful authentication with the other model, the Devolutions Server user account will have been created and you will be able to see how to format you account names. You can then disable the Devolutions Server authentication model. Please see Automatic User Account Creation

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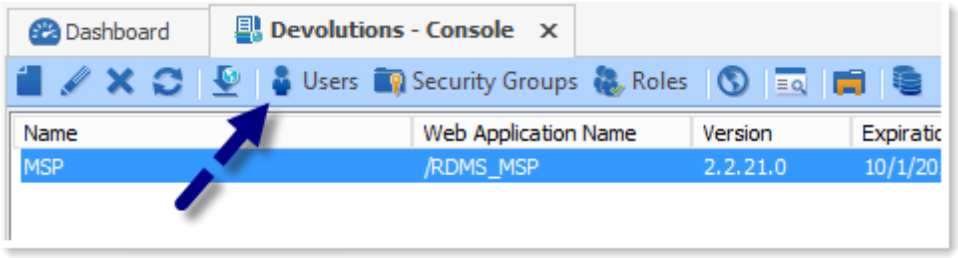
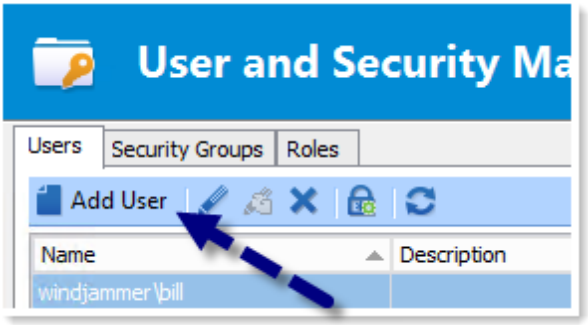
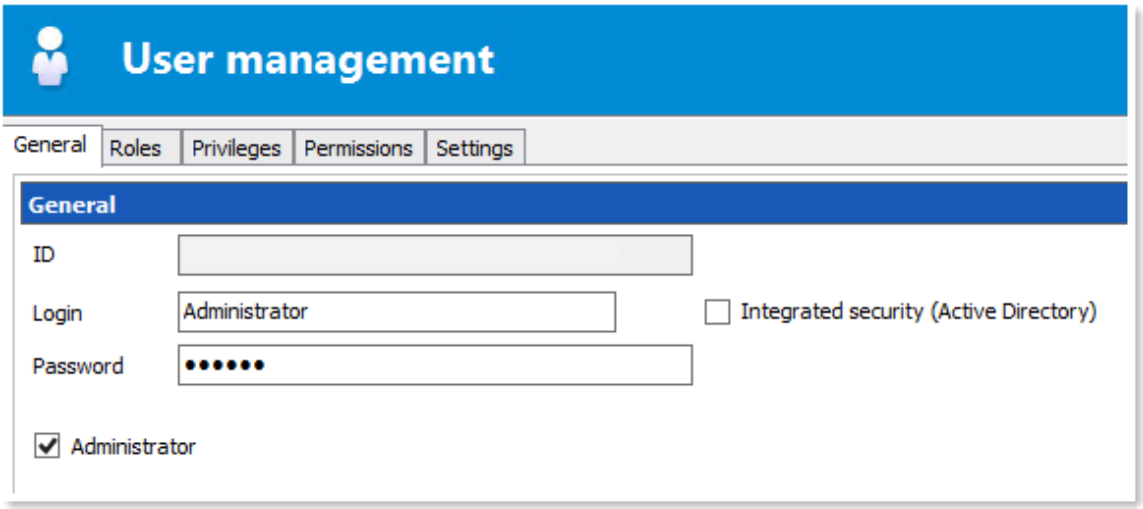


Configure users and security groups



User and Security Management



User management form

14. Configure the data source on all the client machines.

3.2 Upgrading Devolutions Server

Upgrade

1. Open the Devolutions Server Console.
2. Select the instance that you wish to upgrade.
3. Click the Upgrade button.
4. Select upgrade source. You can either use the latest General Availability release that is available online automatically, or specify the path to a zip file that you have downloaded yourself. Use this

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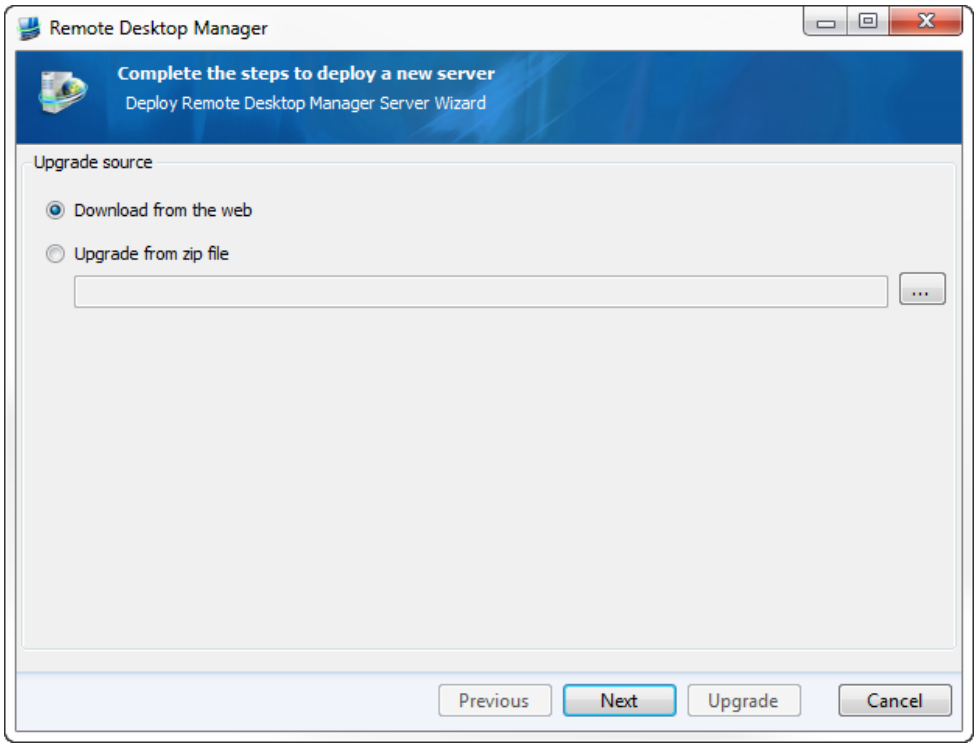
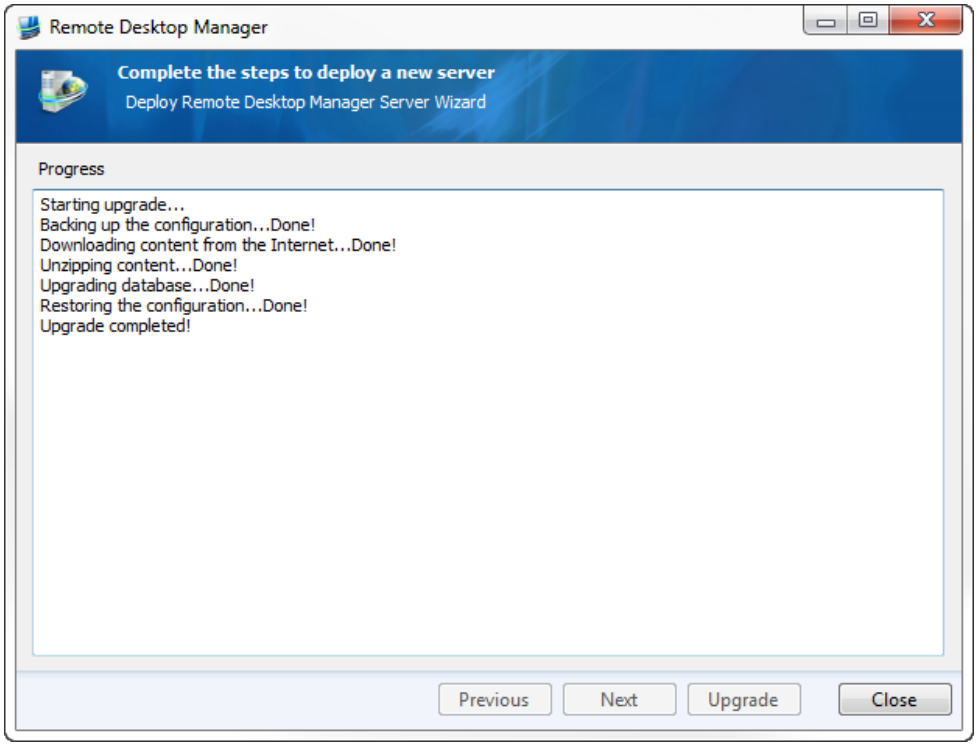
for beta releases or for earlier versions.



Upgrade source

5. Press ***Next***.
6. Review the summary and press ***Upgrade*** if you are satisfied.



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Upgrade completed successfully

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How To

Part IV

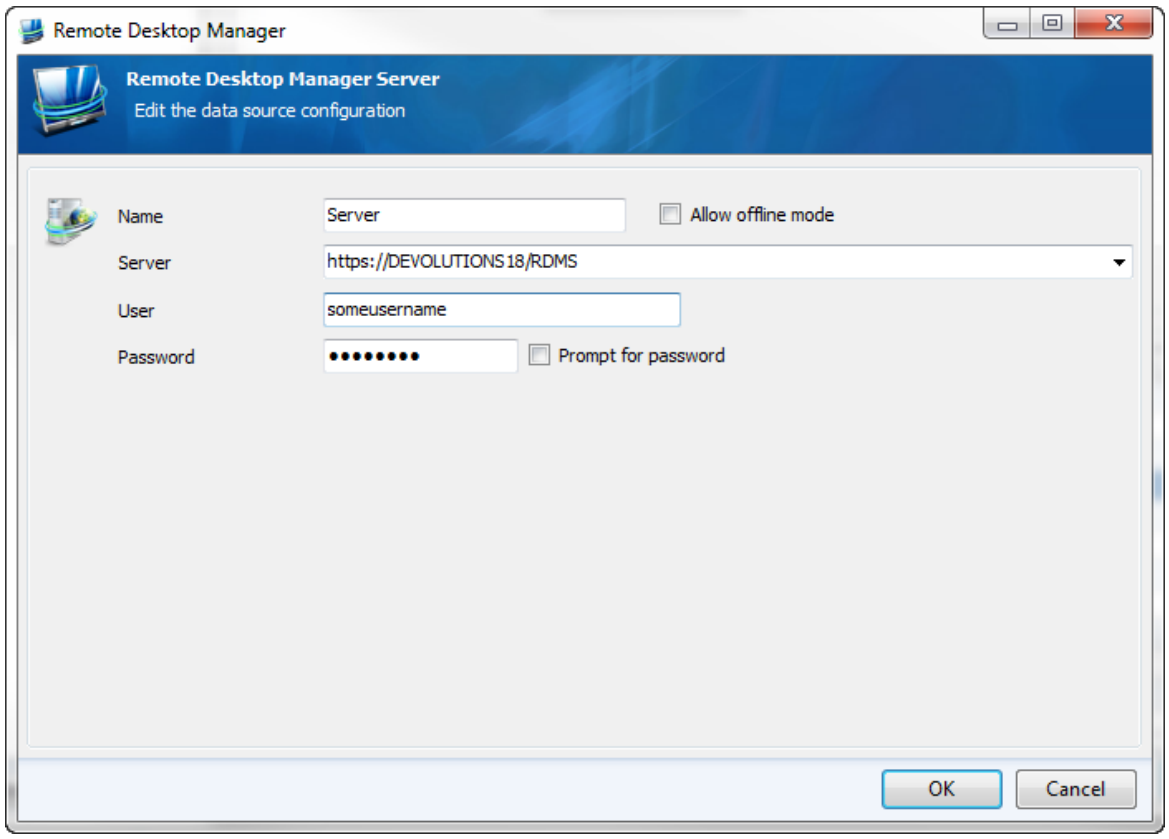
4 How To

4.1 Configure Client Data Source

Create Devolutions Server data source

1. Select ***File - Data Sources***.
2. New Data Source.
3. Select the Devolutions Server data source.
4. Specify settings.

If you specify %USERDOMAIN%\%USERNAME% in the user text area, the value of the corresponding environment variables will be used.



Data source settings

Notes

If the server is configured to only allow SSL, ensure you specify the protocol by using https:// in the Server field.

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4.2 Configure Devolutions Server to use integrated security

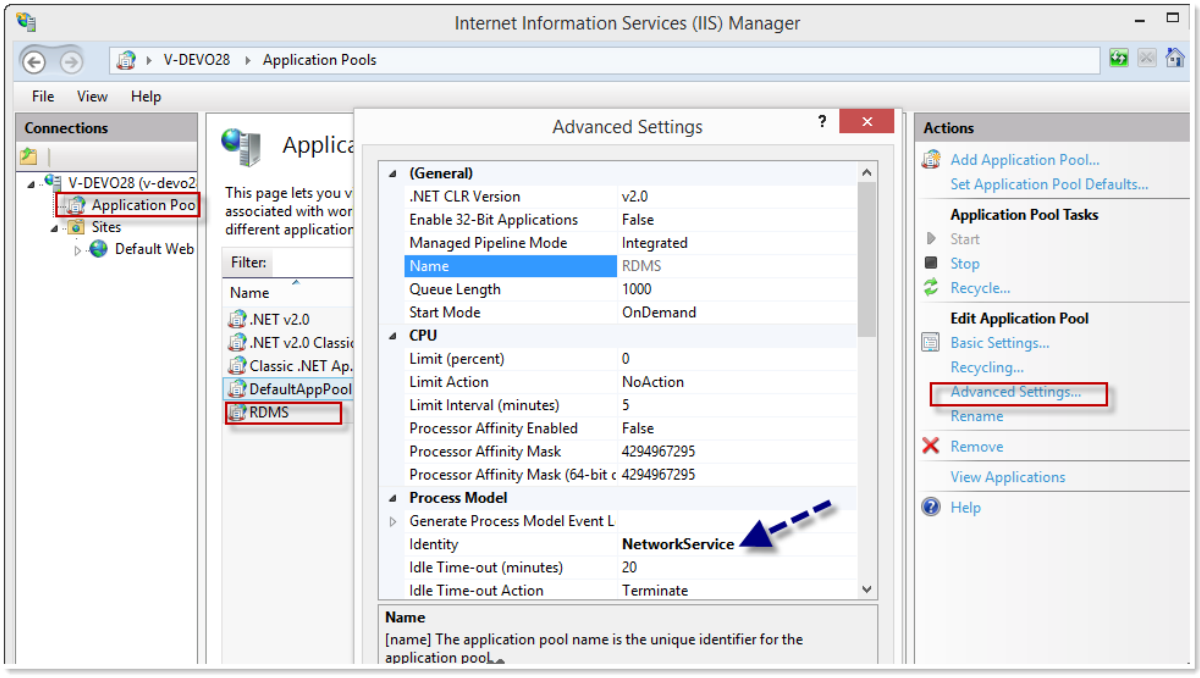
Description

In order for integrated security to be used to connect to the database, you must set a domain account as the Application pool identity.

Steps

To make these instructions simpler, we will name the domain account ***DBRunner,*** please adapt to your requirements.

- Create the DBRunner account in the domain;
- Grant access to the SQL Server instance to DBRunner;
- Grant access to the database to DBRunner;
- In IIS Manager, expand the Application pool section and locate the application pool used by your Devolutions Server site. Normally it has the same name;
- In the advanced settings, edit the ***Identity*** setting to set the DBRunner account.



4.3 Configure SSL

Import Certificate or Create Self-Signed Certificate

1. Select the server node in the tree view and double-click the ***Server Certificates*** feature in the list view:

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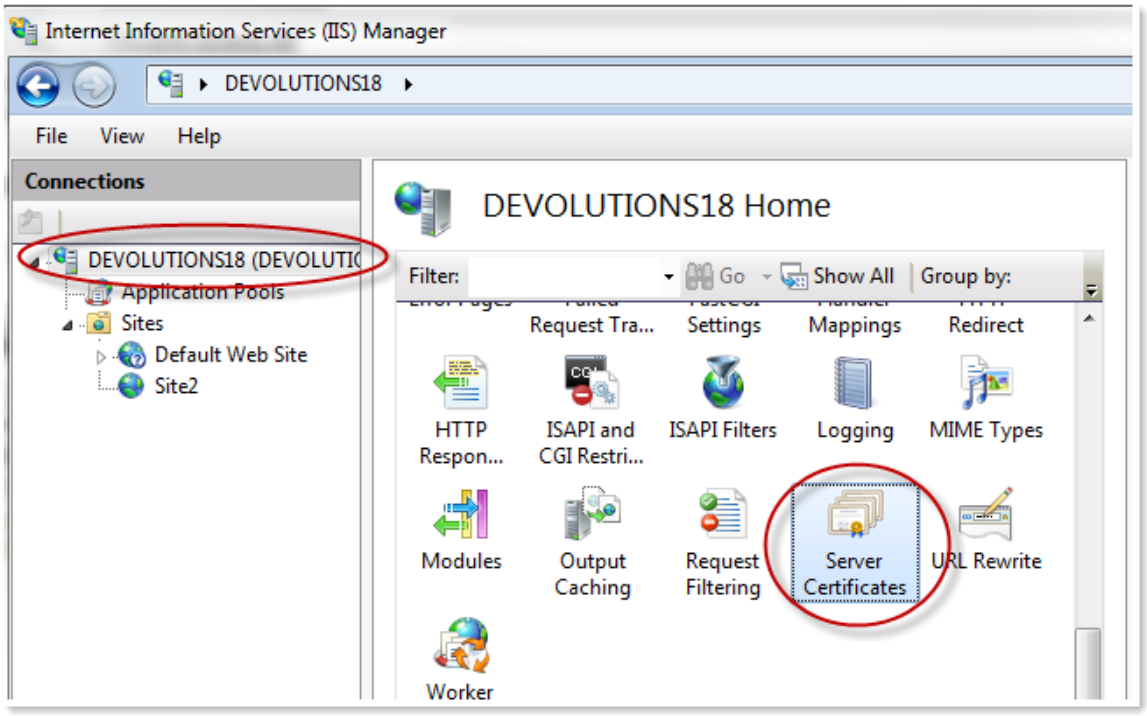
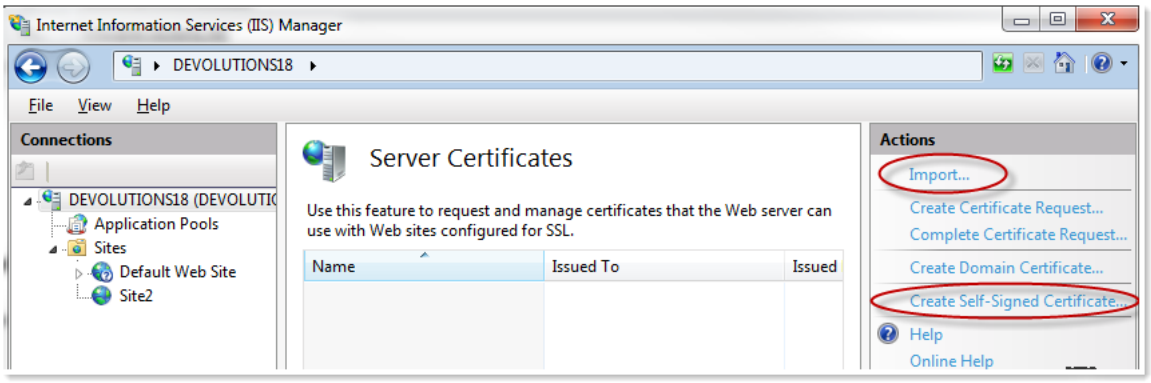


Server certificates

2. Click ***Import Certificate...*** in the ***Actions*** pane Or Click ***Create Self-Signed Certificate...*** in the ***Actions*** pane.



Follow the wizard

Create an SSL Binding

1. Select the web site in the tree view.

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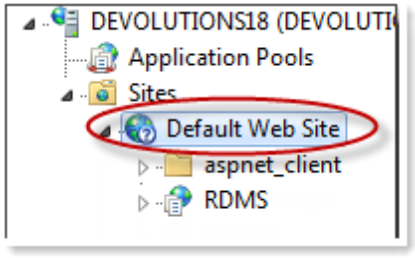
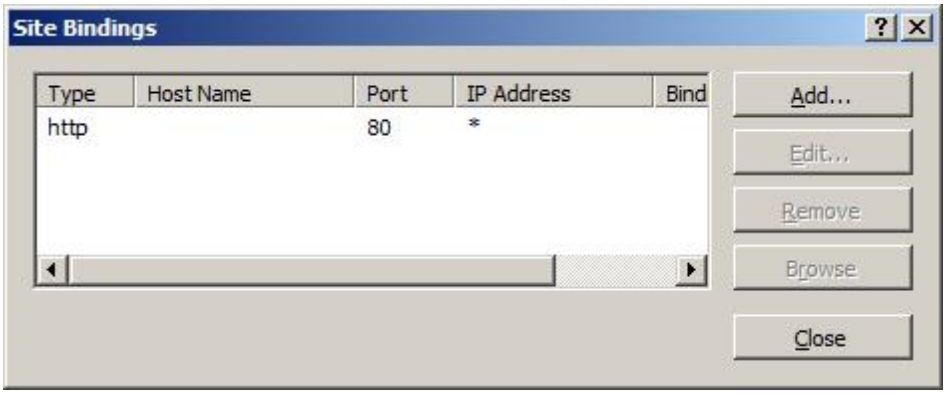


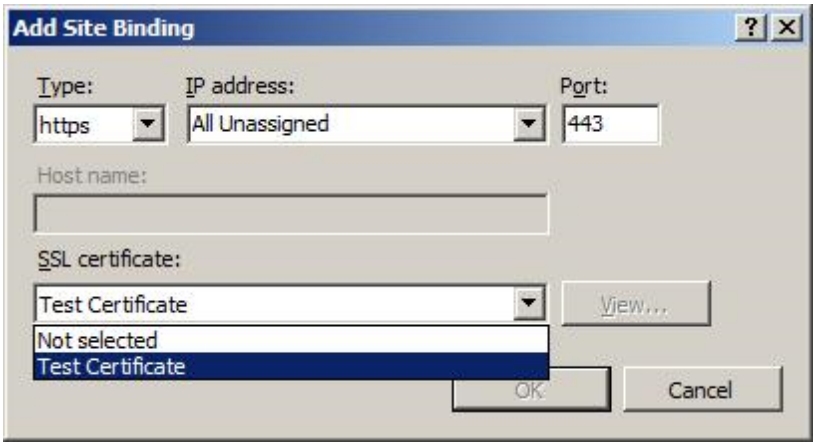
Select web site

2. Click ***Bindings...*** in the ***Actions*** pane. This brings up the bindings editor that lets you create, edit, and delete bindings for your Web site. Click ***Add...*** to add your new SSL binding to the site.



Add binding

3. Select **https** in the ***Type*** drop-down list. Select the self-signed certificate you created in the previous section from the ***SSL Certificate*** drop-down list and then click ***OK***.



Define https binding

4. Now you have a new **SSL** binding on your site.

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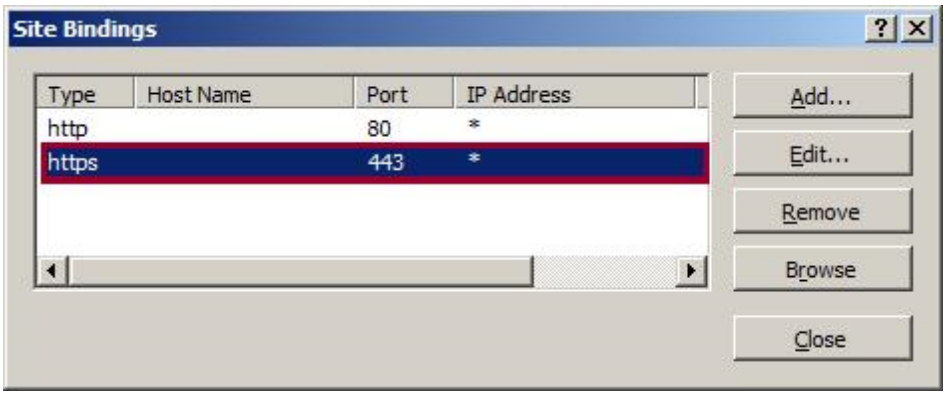
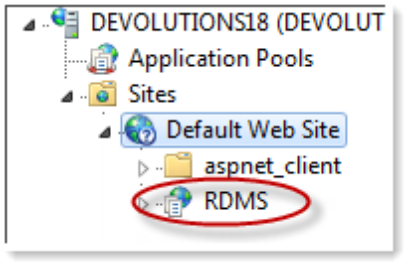


The new binding

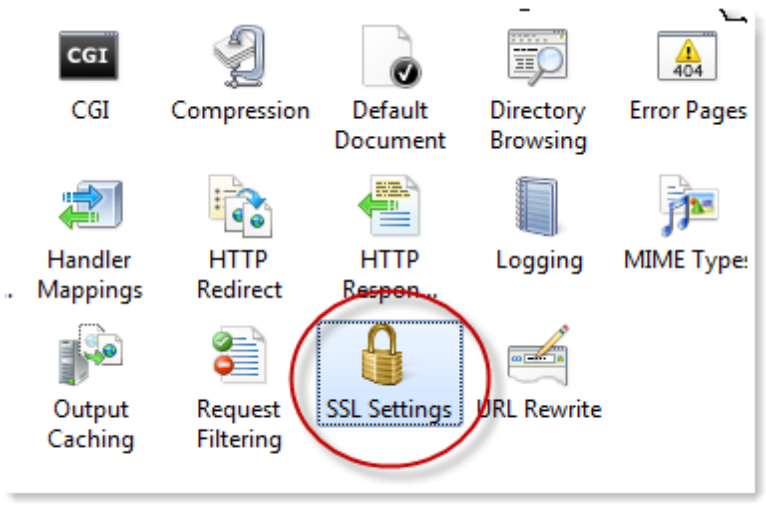
Configure SSL Settings in IIS

1. Select a Devolutions Server application in the tree view.



Select application

2. Click on ***SSL Settings***



SSL settings

3. Configure SSL settings if you want your site to require SSL, or to interact in a specific way with client certificates. Click the site node in the tree view to go back to the site's home page. Double-click the ***SSL Settings*** feature in the middle pane. Select ***Require SSL*** and click ***Apply***.

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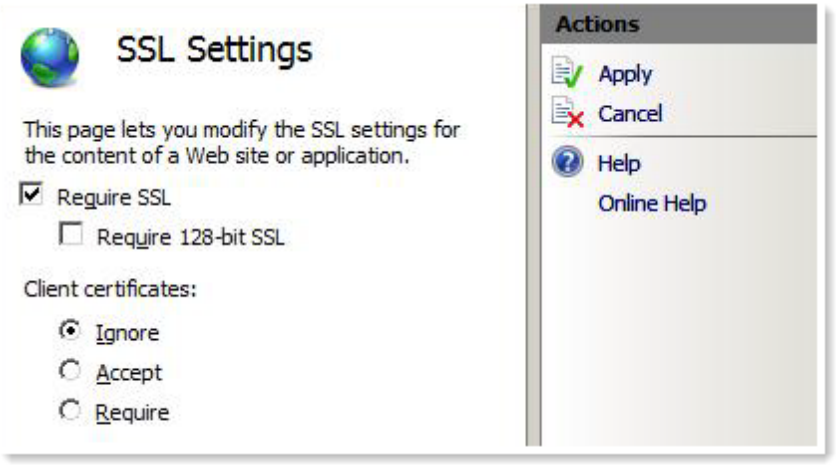

SSL settings

Modify the Devolutions Server configuration

1. Start any text editor (notepad) using right click Run as Administrator
2. Open the file "web.config" found in the Devolutions Server install directory
3. locate this line in the file

    <add key="ForceHttps" value="**false**" />
4. Modify value from false to **true**
5. Save the file

Configure SSL Settings in RDM Client

1. Select ***File*** - ***Data Sources***
2. Edit the Devolutions Server data source
3. Change the server url to start by https://

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Support/Resources

Part V

5 Support/Resources

5.1 Technical Support

Contact Us

Holders of a valid license obtain our Extended Support plan for Devolutions Server. Please email any questions or suggestions to support@devolutions.net. We also offer Premium support for an additional price.

You are also encouraged to find information and ask questions in our forums at http://forum.devolutions.net/. They contain years of relevant information and have the benefit or being enriched for the whole community when we post an answer.

5.2 Troubleshooting

5.2.1 IIS Logging

Description

Here is the description of desired settings when we troubleshoot a performance/connectivity issue related to the client application.

IIS Web Site Logging

1. Open IIS Manager and go in the Logging settings.

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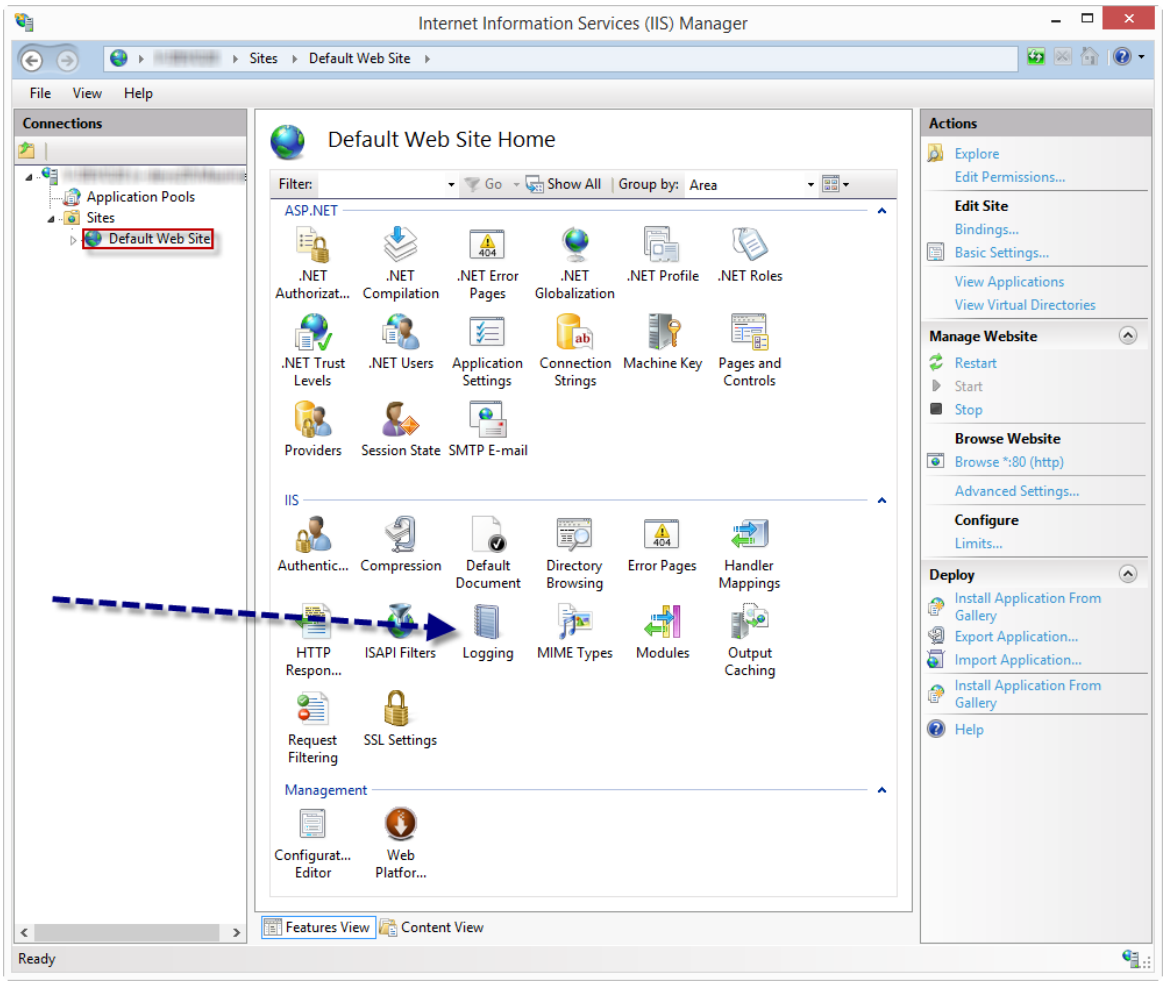

IIS Manager

2. Click on Select Fields

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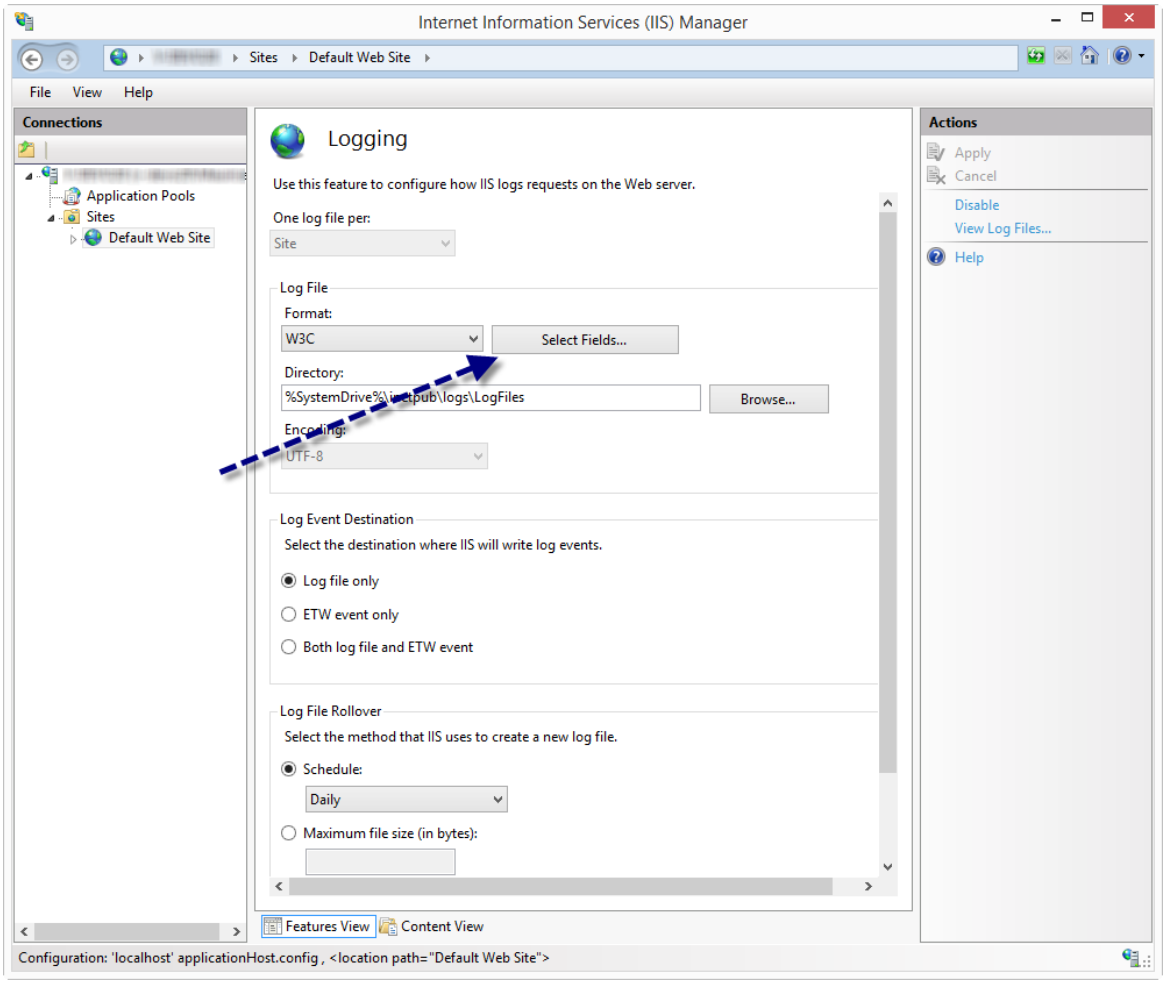

3. We recommend that the following fields be selected:

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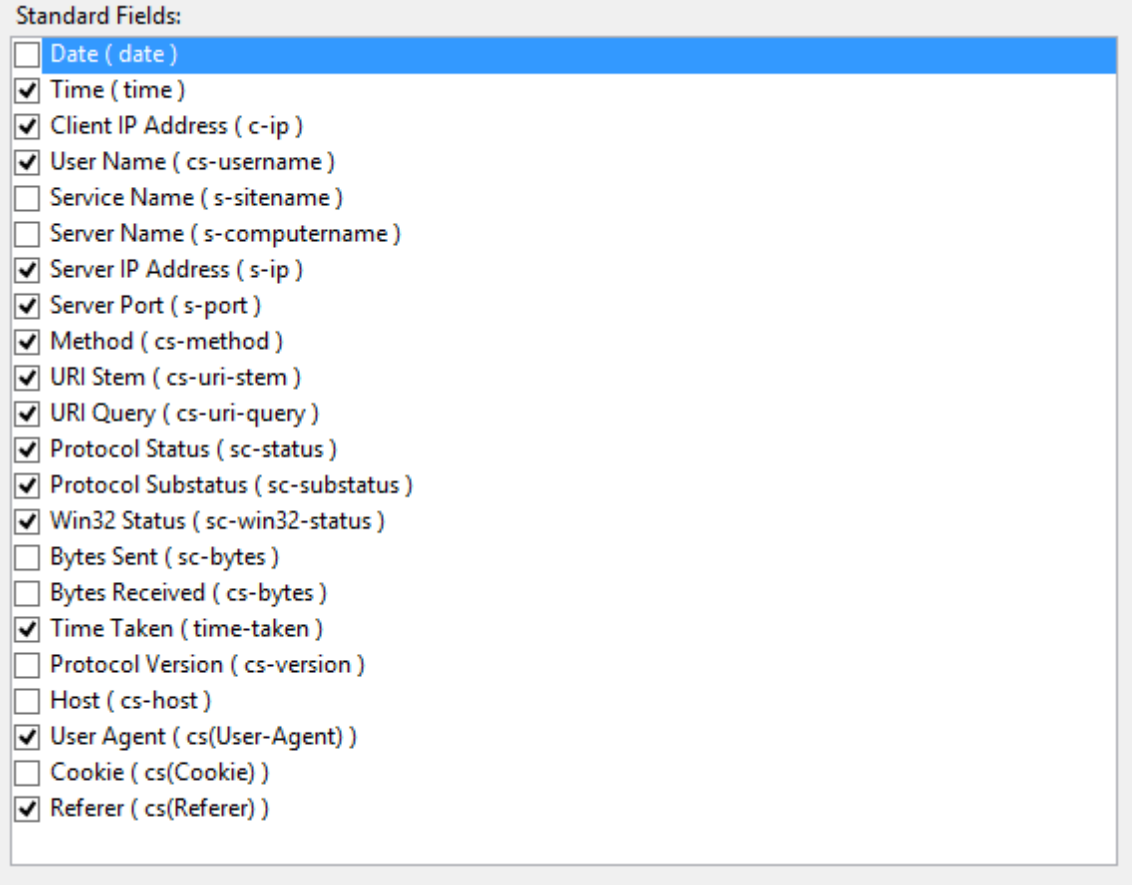

Field selection dialog

Application pool recycle

The application pool that is in fact running the instance can be restarted for a multitude of reasons. It may be useful to know when those **recycles** occur as well as the reasons. Go in the ***Application pools*** section of the ***IIS manager***, then open the ***Advanced settings*** for your application pool. Enable all of the ***Recycle events***, it will create a log entry in the Windows Event Log.

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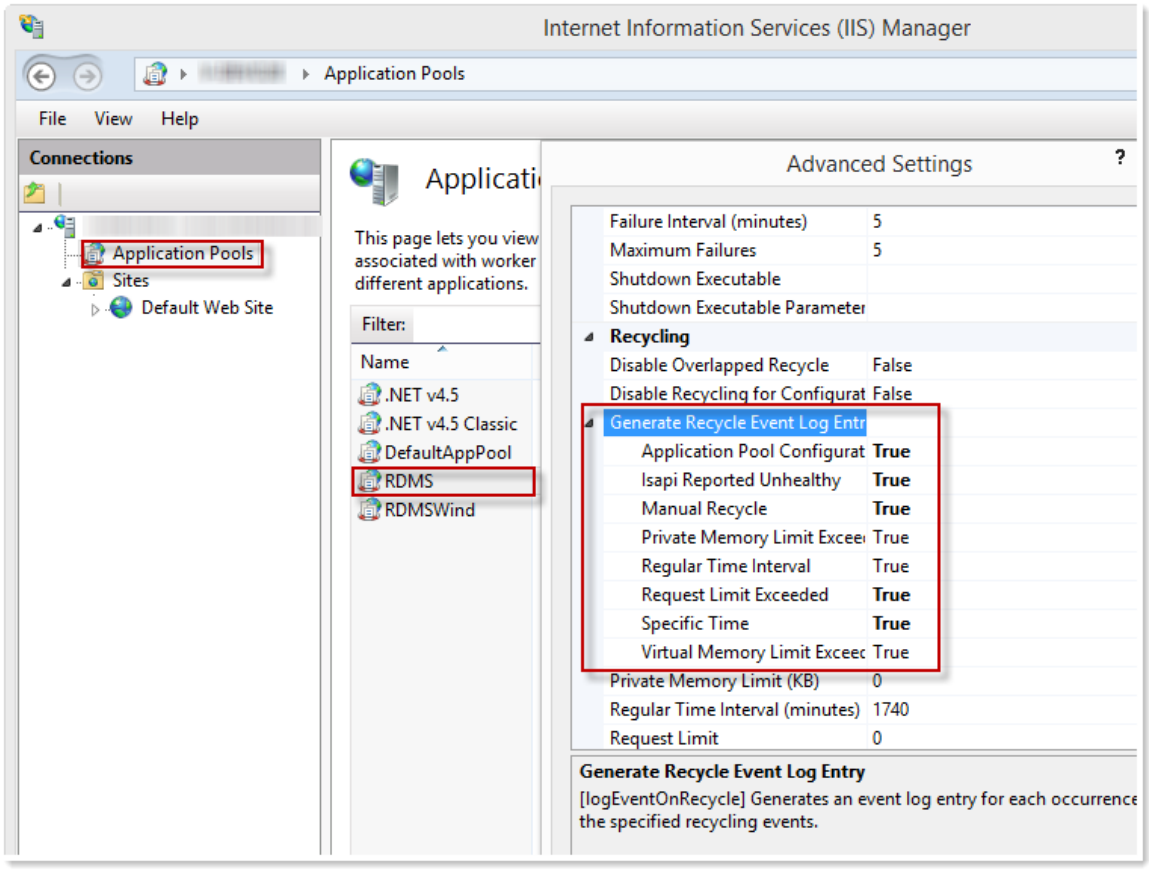

Advanced settings for an Application Pool.

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FAQ (Frequently Asked Questions)

Part VI

6 FAQ (Frequently Asked Questions)

Description

You can find the most up to date FAQs online here.

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Part VII

7 Follow Us

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